The RUBBER AGE

225 Fourth Avenue, New York

VOL. XVIII. MARCH 25, 1926 No. 12

HOUSE COMMITTEE FAVORS RUBBER PLANTING IN U. S. POSSESSIONS

Subcommittee, in Reporting Findings of Investigation of Alleged British Rubber Monopoly, Also Recommends Use of Substitutes and Gives Alternative Remedies

In its report, made public March 13, of the findings of the investigation into the alleged British monopoly of rubber and other foreign monopolies, the House Committee on Interstate and Foreign Commerce did not indorse Government retaliation but favored the growing of rubber in United States possessions and other remedial measures which had been previously recommended by Secretary of Commerce Hoover. (That portion of the text relating to rubber is published in full on pages 431 and 432 of this issue).

Summarized, the outstanding recommendations of the committee for meeting unfair prices are:

One—Conservation campaigns by consumers, to be systematically organized, with assistance, if necessary to cope with the situation, from the Government.

Two—Production of the required raw commodities by this country either under its own flag or in suitable foreign countries which would agree not to interrupt free trading.

Three—Amendment, either by the Philippine Legislature or the United State Congress, of existing laws which now limit land holdings to 2,500 acres, a condition that is keeping American capital from the islands.

Four—Authorization for the Department of Agriculture to establish rubber demonstration stations in South and Central American countries.

Five—Encouragement to development of synthetic rubber in the Bureau of Standards at Washington.

No legislative action was recommended, but the hint was given in the conclusions reached by the committee that unless American consumers and producers of raw materials can force a change of policy abroad the committee will reopen the question.

The Philippines as a rubber growing country are praised in the report as follows: "Physical conditions are known to be excellent. Under the existing Philippine land laws, the holdings of individuals or corporations are limited to about 2,500 acres. This condition could be altered by the Philippine Legislature or by the Congress of the United States if it chose to change the basic law under which the islands are now administered.

"The suggestion has been made in certain quarters that these governmental controls were instituted as a sort of reprisal against the protective tariff policy of the United States as embodied in the Fordney-McCumber act of 1922," the report declares. "Such is not the case. The Brazilian restriction of coffee had its origin in 1906, the Mexican sisal restriction in 1915, the chilean nitrate control dates back to 1885 and the British control of crude rubber was in process of formulation before the Fordney-McCumber bill became a law.

Against Extension of Credit

"With the exception of crude rubber, the four leading governmental control commodities come from three Latin-American countries, Brazil, Mexico and Chile. The tariff relationships between these countries and the United States are decided in their favor."

The committee strongly advised against extension of credit, saying in part:

"Since these governmental controls are contrary to the interests of the American consumer, the committee takes the position that American citizens should refuse to aid or assist them by extending credit to them."

It is also stated in the report that retaliation was not seriously considered and would not be, except as a last resort. Nor

(Continued on Next Page)

Full Text of Report in This Issue

The full text of the report of the House Committee on Interstate and Foreign Commerce (excluding only that part which has no reference to rubber) may be found in this issue of THE RUBBER AGE on Pages 431 and 432.

As usual, THE RUBBER AGE has tried to give its readers detailed information. The gratifying reception of our report of the recent Hoffmann-Gottlob patent suit indicates that our readers appreciate *complete* information.

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Published on the 10th and 25th of each month by Gardner Publishing Co., 225 Fourth Ave., N. Y. C. and Highland, N. Y. Address correspondence to N. Y. office. Subscription rates: Domestic, $2.00; Canada, $2.50; Foreign, $3.00. Single Copies, 10c.

Entered as Second Class Matter June 10, 1920, at the Post Office at Highland, N. Y. under Act of March 3, 1879.

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Forms close 10 days before publication.

RECOMMENDS PLANTING IN U. S. POSSESSIONS

(Continued from Page 411)

did the committee take kindly to the suggestions for subsidy to American citizens in the development of raw materials, or for amendment to tie anti-trust laws permitting combinations of American purchasers to buy cooperatively.

Minority Report Filed

A minority report signed by Representatives Rayburn, Huddleston, Shallenberger, Parks and Crosser agrees with the historical and statistical data of the majority. It complains, however, that the committee's outstanding recommendations "point toward boycott and retaliation," which it says are "the only weapons a nation can employ when such nation itself pursues policies of international trade obstruction, restriction, discrimination and reprisal. Our existing high tariffs, with their network of restrictions and discriminations offer precisely a case in point."

The subcommittee, which drew up the report, was appointed by the House Committee on January 26, and was composed of the following: Representatives Newton, Hoch, Rayburn, Wyant and Huddleston. In the report were contained the findings of the investigation into foreign monopolis which began January 6, last, and continued for several weeks. Among those who testified before the committee were Secretary Hoover; F. A. Seiberling, president of the Seiberling Rubber Co., Akron; A. L. Viles, general manager of the Rubber Association of America; W. O. Rutherford, vice president of the B. F. Goodrich Co., Akron; C. B. Seger, chairman of the United States Rubber Co., New York; P. L. Palmerton, Chief of the Rubber Division, Department of Commerce; H. S. Firestone, president of the Firestone Tire & Rubber Co., Akron; and representatives of the National Automobile Chamber of Commerce.

Passaic Elects Officers

Samuel Geldziler was re-elected president of the Passaic Rubber Co., Clifton, N. J., at a recent meeting; Henry C. Mathey, vice president; Samuel Steuer, treasurer; Jacob Munzer, secretary; and James J. Parrington, assistant secretary, were also re-elected. On January 1, last, the company declared a 50 per cent dividend on common stock. This was the first dividend declared since its organization.

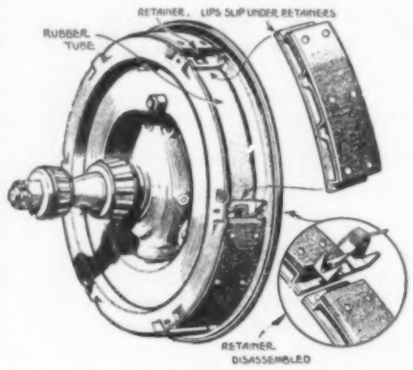
Another Exchange Rumored

Rumors were recently current in rubber circles of the contemplated formation of still another exchange to trade in rubber futures. Although details of the working of the proposed exchange were not heard, it was said that its name would be the New York, London & Singapore Rubber Exchange. The trade was inclined to doubt that plans, if such exist, would ever reach the stage of actual trading. It is the feeling that the present facilities for trading provided by the Rubber Exchange of New York, Inc., and the Cocoa & Rubber Exchange are more than ample for any needs of the trade and that any effort to supplant either of the present exchanges or to organize a third was doomed to failure at the outset.

RUBBER EMPLOYED IN HYDROSTATIC BRAKES

The new Stutz vertical eight has aroused much interest among motorists, but it is not generally known that the efficiency of the four-wheel hydrostatic brakes is due to the employment of rubber tubes. The brakes, which are manufactured by the Timken company, are of unusual design, inasmuch as there are no sliding pistons or plungers.

Each brake is fitted with six segmental



THE HYDROSTATIC BRAKE

shoes resting upon a flat circular rubber tube and works within a ribbed drum. The rubber tube fits around a steel ring and is enclosed by metal walls at each side, so that the full effect of its expansion is exerted on the brake shoes. Crossbars and springs retain the shoes in their normal position, clear of the drum. The brake pedal when depressed acts upon a reinforced flexible bulb, connected by piping to the tubes of the brakes. The liquid is forced out of the bulb and expands the circular rubber tubes which press the segmental shoes against the drums. According to *The Motor*, there is no point at which the liquid can escape from the system.

Predicts Bigger Boom

Commander H. Hamilton-Gordon, R. N., a well-known British rubber expert, in a recent communication to the press, declares that "whatever way investors view the position, they can be assured of huge outputs and very good prices for many years to come, with the possibility of an even bigger boom, than that recently witnessed, in the course of the next few years."

Move Chicago Office

H. Muehlstein & Co., Inc., dealers in crude and scrap rubber, with branches in New York, Akron, Chicago and Boston, recently announced the removal of its Chicago office from 114 West Van Buren St. to 327 La Salle St.

PHILADELPHIA STARTS WORK ON NEW FACTORY

Work has been started on a $2,000,000 rubber reclaiming plant at Oaks, Pa., near Philadelphia, for the Philadelphia Rubber Works of Akron, officials announced recently.

The plant will have a producing capacity of 3,000,000 lbs. a year, according to Vice President J. S. Lowman, in charge of the company's Akron plant.

Fourteen buildings are to be constructed. Work is under way on the more important ones.

The plant will be ready for operation about Nov. 1.

"The importance of reclaimed rubber in the industry at this time is responsible for the expansion," Mr. Lowman said. "The entire supply of reclaim now available is being absorbed by the rubber products manufacturers, and it would be possible to sell millions of pounds in addition if it were produced.

"For the past year reclaimers have been working at capacity, attempting to meet the demand, and still there is need for more."

To Supply Eastern Factories

Mr. Lowman declared that the new plant at Oaks would not affect the Akron plant. He intimated that the purpose of the eastern development was to supply the large number of eastern reclaim users who now have no large reclaiming plant to depend on. The Philadelphia Rubber Works has a small plant at Philadelphia, but it is antiquated and not in use now.

The new plant will be managed by R. S. Rauch of Philadelphia, who is on the scene at Oaks, supervising construction. It will be superintended by G. F. Lane, assistant superintendent of the Akron plant, who is expected to leave for Oaks about Nov. 1.

To Open New Branch

The Mellinger Tire & Rubber Co., Kansas City, Mo., has leased a building at 18th and Peralta Sts., Oakland, Cal., to serve 4,000 tire and battery dealers on the Pacific Coast. The branch will supply California, Oregon, Washington, Nevada, Arizona, Utah and Idaho. It is expected that the branch will be opened April 1, with R. H. Shull, western division manager, in charge.

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TO ASK CONGRESS TO RECOMMEND CHANGE IN PHILIPPINE LAWS

Present Land and Immigration Laws of Islands Detrimental to Large Rubber Plantations—Washington May Advise Philippine Legislature to Remove Restrictions

It was recently learned in Washington that Congress may be asked to recommend by resolution or otherwise changes in existing laws of the Philippine Islands which are a bar to large rubber plantations. The desirability of modifying the land and immigration laws of the Islands to permit the development of extensive plantations may soon be conveyed to the Congress of the Philippines.

Grave consideration has been given to this phase of the rubber situation by the members of the sub-committee of the House Interstate and Foreign Commerce Committee, in its report on the findings of the recent rubber investigation.

The hearing showed that the land laws of the Islands, restricting land ownership to not exceeding 2,500 acres, had a tendency to place a damper on any extensive growing of rubber there. Another obstacle seems to be the lack of "heavy" labor in the Islands, the Filipinos, although favorable to work on rubber plantations, being small in stature, are not fitted for the heavy initial work that must be undertaken to put the jungles in readiness for rubber planting.

Alien Labor Needed

Immigration bars may be lowered to permit the temporary entry of foreign labor, such as the Mongolians. These aliens could be deported upon the completion of the work of clearing the jungles, because the Filipinos would be able to carry on the ordinary work of a rubber plantation, such as tapping, replanting, etc.

This matter, as it is not within the jurisdiction of the House Interstate and Foreign Commerce Committee, might have to be addressed to the Committee on Insular affairs, which is in more direct contact with the Philippine Government. Both committees, it is expected, will be very circumspect in their discussions of the matter because the future of the Islands is involved and the question of Philippine independence will be brought into any argument on the subject.

Harvey Firestone, Jr., has just returned to Manila from a three-weeks trip through the rubber regions of the southern Islands, according to cable advices. He said that there would be no question about American capital going to the Philippines to foster rubber growing if it were not for the law limiting land holdings. Mr. Firestone and his party made stops along the coast of Mindanao, which has an area of 40,000 square miles, and of the Island of Basilan, which has 900 square miles, with several flourishing rubber plantations of 1,000 acres or more. The party also visited points in the Sulu Archipelago. The trip was made at the joint request of General Woods and Senate President Manual Quezon.

Mr. Firestone said that he investigated immense areas suitable for growing rubber and learned of even larger areas further inland, now inaccessible through the jungle. He intimated that he would make a full report to his company on the potentialities of the Philippines. Mr. Firestone intends to visit Ceylon, the Straits Settlements, Java and Sumatra after leaving the Philippines.

It was recently made clear by Herbert Hoover, Secretary of Commerce, that the Administration had made no overtures to the Philippine Government in connection with changes in the laws of the Islands and that none were contemplated. Mr. Hoover intimated that there was no objection to Congress taking whatever steps in this direction it might consider wise, but said that the Administration does not propose to concern itself with the question.

Recognition

On February 23rd, in Akron, a meeting of the Division of Rubber Chemistry of The American Chemical Society was held.

At this large and representative gathering, a paper was submitted from a totally impartial source.

One sentence from this Paper stands out as most important and informative:

"It is possible to compound many stocks, including tire treads, with rubber and reclaim instead of with rubber alone and maintain the same quality."

This recognition by men of eminent technical ability of the vital part which Reclaimed Rubber can take in the Rubber Industry is a gratifying vindication of the claims we have put forth for it for so many years.

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MALAYAN RUBBER IMPORTS REGISTER BIG INCREASE

(*Special to* THE RUBBER AGE)

The Acting Registrar of Imports and Exports, Straits Settlements, has just issued a very interesting and useful series of statistics showing in detail the quantities and sources of rubber imports at Singapore and Penang during 1925. In a summarized form the returns, with the figures of 1924 added for comparison, read as follows in long tons (2,240 lbs.):—

Imports from:—	1925. Tons	1924. Tons.	Increase. Tons.
Dutch East Indies—			
Dry	14,412	12,289	2,123
Wet	124,452	80,806	43,646
Sarawak and British North Borneo—			
Dry	10,352	8,047	2,305
Wet	416	327	89
Indo-China, Siam, Burma, etc.—			
Dry	3,887	3,460	427
Wet	4,504	2,490	2,014
Totals—			
Dry	28,651	23,796	4,855
Wet	129,372	83,623	45,749

It may be assumed that practically all the dry rubber represents estate produce, while the wet is known as native rubber. In the case of the latter a deduction of 30 to 35 per cent for dry weight has to be made.

Rubber exports from Deli, on the East Coast of Sumatra, in 1925 amounted to 65,000, of which 50,000 tons was plantation rubber and 15,000 tons native rubber. For the remainder of the Dutch East Indies the total exports for last year were:—Estate rubber, 54,000 tons; native rubber (after allowing for dirt and water), 69,000 tons, a total of 123,000 tons. Exports from the whole of the Dutch East Indies thus amounted to 188,000 tons (against 142,000 tons in 1924.)

CONTOUR-PLANTING ON HILLY LAND IN MALAYA

L. A. McQueen Promoted

L. A. McQueen, as assistant general sales manager of the B. F. Goodrich Co., Akron, has been placed in charge of tire sales and advertising. Mr. McQueen's appointment arises through the creation of a separate sales division for the company's tire business. The growing importance of footwear, flooring, mechanical goods, druggists' sundries and various other lines in which new developments are constantly under way necessitated a division of C. E. Cook's responsibilities as assistant general sales manager.

Stokes Leaves Memorial

Joseph Oliver Stokes, president of the Thermoid Rubber Co., Trenton, N. J., and treasurer of the Joseph Stokes Rubber Co., who died recently in California, willed his residuary estate of $1,000,000 to the city of Trenton to erect a school in memory of his son, Joseph Oliver Stokes, Jr., who died while a student at Princeton University. Mr. Stokes also left 2,500 shares of stock of the Thermoid Rubber Co. to his nephew, Robert J. Stokes, secretary of the company. He also willed 250 shares of stock to three other nephews.

Rainbow to Open Soon

J. H. Schaff, a director of the Rainbow Tire & Rubber Co., Delaware, Ohio, announced recently that the company's factory will be put into operation in the near future. The first products manufactured will be inner tubes. All necessary machinery has been installed and at this writing the boilers were being "baked out" preparatory to actual operation. Stockholders at a recent meeting elected the following directors: C. E. Ross, J. M Bergin, Harry Lush, C. Berdan, Frank Milner and J. H. Schaff. Directors will hold a meeting shortly to elect officers.

FORMER MANHASSET MILL FOR SALE OR LEASE

The Putnam Land & Mills Co., Putnam, Conn., are offering for sale or lease mills which are part of the plant formerly owned and operated by the Manhasset Mfg. Co., well known as manufacturers of tire fabrics. The spinning mill is equipped with 15,024 spindles and the necessary card room, picking, spooling and warping machinery, which was installed in 1912 to 1917. Spinning frames are wide gauge with tape-driven spindles.

Floor space in the spinning mill and in other places will permit the addition of a few additional roving frames and 7,000 additional spindles to increase the spinning output, if desired, 50 per cent. The twisting and weaving mill is equipped with Fales & Jenks tape-driven twisters and 12 Crompton & Knowles, Worcester pattern card looms, with iron cord creels for very large spools. There are also cord looms to which creels can be applied if required, and several looms for weaving leno fabrics. Twisting and weaving machinery was installed 1918 to 1922. The cord equipment and the spinning equipment recently installed will produce 50,000 to 55,000 lbs. of cord fabric, according to style, operating 110 hours weekly.

The twisting and weaving mill has ample floor space to take additional equipment to increase production 50 per cent. Total floor space of these mills is approximately 140,000 square feet, of which two-thirds are new construction. The mills are equipped with sprinklers, humidifiers, modern plumbing and heating, refrigerating plant for cooling drinking water, and with a complete carpenter and machine shop. Machinery is driven by electric power furnished by the Eastern Connecticut Power Co. In addition, there is excellent water power, with turbines totaling 386 horsepower included with the property, and which drive a portion of the spinning mill, considerably reducing the power cost.

A supply of experienced non-union help at reasonable wage rates is available, and low production costs can be obtained.

Putnam is a manufacturing town of about 9,000 inhabitants situated on the main line of the New York, New Haven & Hartford R.R. It is 175 miles from New York and 60 miles from Boston, with good shipping facilities in all directions. The mills have the use of a private siding on the railroad.

These mills, which are offered for sale or lease with option to purchase, are said to offer a favorable opportunity to any manufacturer wishing to manufacture high grade tire fabrics.

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SHALLENBERGER ATTACKS RUBBER MANUFACTURERS IN HOUSE REPORT

Representative Charges Manufacturers Used Restriction as an Excuse to Raise Tire Prices and Says they Failed to Give Public Benefit of Lower Rubber Prices

Representative Shallenberger of Nebraska, a Democratic member of the Interstate Commerce Committee, in a report made to the House March 15, charged that American tire manufacturers made British restriction of rubber exports an excuse for raising the prices of their products. The report also contained a criticism of Secretary Hoover's recommendation that American bankers should withhold credit from foreign combinations curtailing supplies of raw materials greatly needed in this country.

The report was critical of the one made to the House on March 13, by a subcommittee (and published elsewhere in this issue of THE RUBBER AGE). This report held that publicity of the exactions of the British control had forced crude rubber prices down. Representative Shallenberger denied this and said that crude rubber prices had dropped about 50 per cent on the New York market since Feb. 1, due to the action of the British in authorizing a release on that date of 100 per cent of standard production.

He also said that American tire manufacturers failed to give the public the benefit of the price reduction in crude rubber brought about by the February release of the British rubber producers.

Refers to Hoover's Statement

Asserting that American manufacturers had not paid anywhere near the peak prices of $1.01 and $1.21 a pound for crude rubber in 1925, Mr. Shallenberger directed attention to a statement authorized by Secretary Hoover, to the effect that this country had imported that year rubber to the value of $860,000,000, a much larger sum, he said, than would have been expended at anything like "fair prices." Mr. Shallenberger insists that the amount paid for crude rubber by this country in 1925 was $479,000,000, instead of $860,000,000, and that "if it was worth $860,000,000, our importers still owe the British rubber producers a lot of money.

Used "Smoke-Screen"

"What the Secretary, perhaps, meant to state," he added, "was that it was worth $860,000,000 to the rubber manufacturers of America because they charged the American consumers a gross advance of $500,000,000 behind the smoke-screen of foreign price controls."

Mr. Shallenberger declared that following the "widely advertised" advance in crude rubber prices, tires that formerly sold for $27 were increased to $54.

Mr. Shallenberger asserted that Department of Commerce reports show that the average cost of rubber to importers in 1925 was only 48 cents a pound, and he charges that the big tire companies did not pay the average. He said it was clearly shown that rubber did not cost them 10 cents above the agreed fair price for crude rubber in the Far East, and added that the increase paid by American tire manufacturers in 1925 amounted to only $88,000,000, "whereas the manufacturers boosted the cost of their wares to the public $500,000,000."

Declaring that the Firestone Tire & Rubber Co., Seiberling Rubber Co., and the United States Rubber Co., admitted an advance of 50 per cent on a million-dollar-sale volume, Mr. Shallenberger remarked: "Robber, robber, where is the rubber robber?" He avers that the profits of the tire manufacturers in 1925, which he said ranged from $9,000,000 in the case of Fisk to $17,000,000 in the case of United States Rubber, clearly revealed "who got the milk in the rubber price manipulation" of that year.

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OFFER 50,000 SHARES OF INTERCONTINENTAL

Henry D. Linsley & Co., New York, recently offered 50,000 shares of the common stock of the Intercontinental Rubber Co. at $19 a share. The block of stock was offered subject to prior sale and change in price and was for delivery about March 22. The shares are traded in on the Stock Exchange. The authorized common stock of the company consists of 604,000 shares, of which 603,824 are to be presently outstanding. It has no funded debt and no preferred stock.

In connection with the offering the bankers gave the following summary of the company's activities: "The Intercontinental Rubber Co., the only important American company engaged exclusively in the production and marketing of crude rubber, has been in successful operation for over 20 years and sells to practically every large manufacturer of rubber products in the United States. The properties are located in the Island of Sumatra, in Mexico, California and Arizona. It owns four plants in Mexico with a combined annual capacity of 10,000,000 pounds of rubber and has under cultivation the guayule shrub, from which it extracts rubber, on large areas owned in California on which the first crop will be harvested in 1930. Net earnings for the common stock in 1925, after all charges, were equivalent to approximately $3 per share on the common stock then outstanding.

"Since organization the company has had the benefit of experience and able management, which has brought the development of the cultivated guayule plant to a point of profitable commercial production and has perfected exclusive processes of extraction. The directors are George H. Carnahan, John R. Morron, Elton Parks, William C. Potter, Felix T. Rosen, Charles H. Sabin and Herbert H. Vreeland, all of New York."

Theodore B. Smart

Theodore B. Smart, aged 76, vice president of the Stamford Rubber Supply Co., Stamford, Conn., and former owner of the T. B. Smart Co., hat manufacturers, died of pneumonia recently at his home, 711 Pacific St. Mr. Smart was a resident of Stamford since 1884. He has not been in good health for several years.

Mr. Smart was born February 18, 1850, in Massachusetts and began his business career at 21 when he entered the employ of a straw hat manufacturer, later forming a partnership with J. S. Patterson and Wilbur Rice. After the death of the other two partners, Mr. Smart continued the business under the name of the T. B. Smart Co. He was made vice president of the Stamford Rubber Supply Co. in 1912.

He is survived by his widow, neé Nellie S. Meacham, whom he married in 1897; and a sister, Mrs. Isadore Forbes of Roslindale, Mass.

SUIT FOR CARBON BLACK INJUNCTION DISMISSED

Judge Louis Burns of the Federal District Court at New Orleans, La., on March 9, dismissed a suit brought by J. Smylie Harkness, a Pennsylvania carbon manufacturer, who asked an injunction preventing the Louisiana Department of Conservation from interfering with the use of gas wells purchased in the Monroe fields. The Court held that the petition was, in effect, for a mandamus to compel issuance of a factory permit.

The suit was dismissed on a technicality, the Court holding that the suit, as a mandamus proceeding, should have been brought in the State instead of in the Federal Court. The decision did not involve the constitutionality of any of the conservation laws or talk of the question of the use of Louisiana gas for the manufacture of carbon black, although Commissioner Irion of the Louisiana Department of Conservation was quoted in the press as welcoming the decision as a victory for "conservation" as against carbon black interests.

Form Walter H. Bass & Co.

Walter H. Bass & Co., New York, capitalized at 300 shares of no par value, was recently granted a charter by the Secretary of State. The company plans to manufacture rubber goods. Incorporators are Henry A. Kiep, Jr., W. H. Bass, 136 Liberty St. and Solomon Traub, 141 Broadway.

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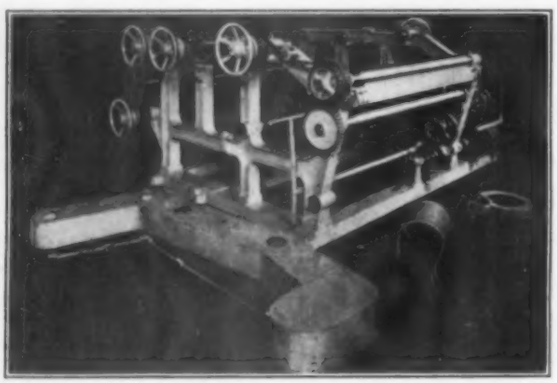

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YEAR 1925 WAS PROSPEROUS ONE FOR UNITED STATES RUBBER CO.

Net Income was $17,309,870, Compared to $8,368,053 Last Year—Sales of $206,473,737 were the Largest for Any Year Since 1920—$3,000,000 Set Aside

The annual report of the United States Rubber Co. for 1925 shows a substantial increase in sales and net profit compared with 1924. Sales last year totaled $206,473,737, the largest since 1920, and compared with $172,219,353 in 1924. After allowing for all operating expenses, including reserves for depreciation and taxes, net income was $17,309,870 available for dividends, against $8,368,035 in 1924.

The net income for 1925, after preferred dividend requirements, was equal to $14.91 a share earned on the $81,000,000 common capital stock outstanding, against $3.90 a share in 1924. The directors, however, set aside a special reserve of $3,000,000 out of 1925 profits, to be applied against the cost of crude rubber to be received during the current year. After such appropriation, there was a surplus of $9,082,352, which would be equal to $11.21 a share earned on the common stock.

The detailed income account for 1925 and 1924 follows:

Detailed Income Account

	1925.	1924.
Sales	$206,473,737	$172,219,353
Expenses, depreciation, etc.	181,435,433	158,435,448
Net earnings	$ 25,038,204	$ 13,783,905
Interest	$ 6,228,434	$ 4,715,870
Federal Taxes	1,500,000	700,000
Net income	$ 17,309,870	$ 8,368,035
Subsidiary Co. Divs.	$ 18,718	$ 18,718
First Pfd. Divs.	5,208,800	5,208,800
Surplus	$ 12,082,352	$ 3,140,517
Special reserve	*$3,000,000	.....
Balance	$ 9,082,352	$ 3,140,517
Adjustments (deb.)	$ 2,199,132	$ 1,546,641
Prev. Surplus	34,178,466	32,584,590
Prof. & loss Surp.	$ 41,061,685	$ 34,178,466

*Appropriated to be applied against cost of crude rubber to be received during 1926.

The general balance sheet shows the company had working capital of $124,703,000 at the close of 1925, against $72,680,107.

Details covering current assets and current liabilities follow:

CURRENT ASSETS.	1925.	1924.
Cash	$ 18,624,818	$ 11,540,605
Notes and accts. rec.	54,883,144	45,577,341
Inventory	80,621,794	62,661,976
Total	$154,129,756	$119,779,922
CURRENT LIABILITIES.		
Accts. payable, etc.	$ 29,426,756	$ 14,307,615
Notes and loans	.....	31,490,000
Res. for dividends	.....	1,302,200
Total	$ 29,426,756	$ 47,099,815
Working capital	$124,703,000	$ 72,680,107

C. B. Seger, chairman of the company, in a statement to stockholders said:

"The net income for 1925 does not include any income from rubber plantations owned by the company. Inventories of finished goods were valued at cost of production, which in all cases was substantially below the cost of replacement at the market prices for raw materials. As stated in previous reports, there was some uncertainty as to the value of inventories at foreign branches, which were being investigated. This investigation has been definitely completed and sound value determined, and the resulting loss in value of these inventories, amounting to $2,007,242, has been charged against corporate surplus as being definitely allocated to prior periods. Inventories of raw materials and supplies were valued at cost prices, which were materially below market prices.

"Contractual liabilities, representing forward commitments for raw materials and supplies, including crude rubber, were at prices substantially below market, and as to quantities covered future requirements for conservative periods. The operations of rubber plantations owned by the company produced substantial profits for the year, after providing adequate reserves for depreciation of

(Continued on Next Page)

THE NAUGATUCK CHEMICAL COMPANY
NEW YORK
Materials for the Rubber Goods Manufacturer

MONEX

The Safer Accelerator For Short Heats

A sure way to reduce factory costs is to produce more goods in a given time without increasing labor and equipment.

MONEX will do this by shortening heats.

The time of cure of heels and most molded specialties may be reduced—in some cases as much as half—by using 2 to 3 ounces of MONEX to each 100 pounds of stock.

MONEX, considering its very great strength, is remarkably easy to handle without mill scorching and semi-curing of mixed stock.

THE NAUGATUCK CHEMICAL CO.
1790 Broadway
New York City

SEIBERLING EARNED NET OF $1,244,967 LAST YEAR

The year, 1925, was announced as the best in the history of the Seiberling Rubber Co., Akron, by President F. A. Seiberling, who stated that the net profit was $1,244,967.96 after deductions for taxes, interest and depreciation.

Net sales, deducting discounts and rebates and allowances, amounted to $10,569,522.77, an increase of more than 40 per cent over 1924. Common stock earned $6.00 a share after provisions were made for preferred dividends, thus bringing the book value of Seiberling Common up to nearly $25. a share.

Current assets exceeded liabilities by $2,347,757.21, while the operating surplus of the company amounted to $1,532,125.89. Because of increased capital requirements due to the high cost of crude rubber and expanding business, President Seiberling said that no dividends on common stock would be paid at this time.

The company now has 5,000 dealers and has a bus business of $3,000,000., according to President Seiberling, who expressed satisfaction at the progress made in four years of business. Employees of the company will be given an opportunity to purchase 105,250 shares of common stock in the next five years.

Reviews Company's History

The regular annual meeting of the Seiberling Rubber Co. was held March 8th, 1926. F. A. Seiberling, president, in formally submitting the annual statement to all stockholders present, briefly reviewed the company's history and progress during the past four years.

"A four-year record for a new company," said Mr. Seiberling, "without parallel in the tire industry—a growth not only in volume of sales and financial profits, but also in an enviable good will in the minds of motorists."

In his analysis of the annual statement, Mr. Seiberling demonstrated the unusually healthy condition of the Seiberling Rubber Company by saying—"Our company's gross sales for the year 1925 reached $11,750,000 upon which there was a net earning of $1,244,967.96,—or an earning equivalent to $6.00 on every share of outstanding common stock valued at $10.00.

"Our current assets are three times our current liabilities. Our Preferred dividends are paid in full to date. Our plant capacity has been increased 50%.

"Our position on crude materials is quite satisfactory and I see no possible reason why, during the year 1926, our progress should not be as marked as at any time in our history."

During the regular business meeting which followed, the number of directors of the Seiberling Rubber Company was increased from seven to nine. The following directors were elected: F. A. Seiberling, president; C. W. Seiberling, vice president and treasurer; Wm. S. Wolfe, vice president and factory manager; H. L. Post, vice president and sales manager; W. A. M. Vaughan, vice president, First Trust & Savings Bank, Akron; B. O. Etling, president, Etling Lumber Co., Barberton, Ohio; Geo. T. Bishop, president Frontier Corp.; A. C. Dent, vice president, Peabody-Houghteling & Co., Inc., of New York; Milton W. Harrison, director of the Bowery Savings Bank, New York City and the Fidelity Trust Company of New York.

Germain is Optimistic

E. S. Germain, president of the Dunlop Rubber Corp., Buffalo, N. Y., recently expressed confidence that his company would do at least $25,000,000 worth of dealer business in 1926, which would be a considerable increase over any previous period. Plans are now being made in preparation for this program. The company has opened five new warehouses at El Paso, Texas; Indianapolis, Ind.; Memphis, Tenn.; Springfield, Mass.; and Springfield, Mo. Dunlop now has 35 warehouses.

To Make Rubber Heels

The P. & B. Rubber Mfg. Co., Inc., New York, was recently chartered at Albany to manufacture rubber heels and soles. Authorized capital is $20,000. Incorporators are Rafael Blando, 752 Nelson Ave., Laurel Hill, L. I.; Max Perlstein, 526 Montgomery St., Brooklyn; and David Perstein, 47 Hillcrest Ave., New Rochelle, N. Y. Lewin & Scherer, 1440 Broadway, New York, are attorneys for the corporation.

1925 WAS PROSPEROUS YEAR FOR U. S. RUBBER

(Continued from Page 417)

plant and equipment and amortization of the cost of development, and for foreign income taxes.

"Rubber received from the plantations is taken into account by the company at current market prices, and the plantation companies are credited in open account. The plantations companies draw against this open account for current cash requirements, and the balance not required for operating and development purposes is retained by the United States Rubber Co. and is comprised in its general assets."

N.A.C.C. Discusses Rubber

J. J. Raskob of the General Motors Corp., a member of the rubber committee of the National Automobile Chamber of Commerce, reported at the regular quarterly meeting of the Chamber held recently at its headquarters, 366 Madison Ave., New York, that the committee was making progress. He gave an outline of the rubber situation and told the members that in view of the tremendous scope of the problem before the rubber committee that it was their desire to proceed conservatively.

Wants Repair Materials

Norman C. Porter & Co., 229 Castlereach St., Sydney, N.S.W., Australia, importers of automobile accessories, desire manufacturers of tire and tube repair materials to communicate with them. The company is interested in tube repair outfits, blow-out patches, small electric vulcanizers and five-minute vulcanizing patches, similar to Shaler. They are not in the market for large vulcanizing machinery. References are the Canadian Bank of Commerce, New York; and the John D. Williams Export Corp., 2 Rector St., New York.

Litchfield on Aero Board

P. W. Litchfield, vice president of the Goodyear Tire & Rubber Co., Akron, has been appointed a member of the division of aeronautics of the United States Chamber of Commerce.

The C. P. HALL COMPANY

118 Central Savings and Trust Bldg., Akron, Ohio

Announces its Appointment as Sales Agent for

WHITE FLOSS and TUSCAN CLAYS

(Water Ground) ***(Dry Ground)***

MANUFACTURED BY

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O'NEIL MAKES ANOTHER STATEMENT ON RECLAIM

In answer to the reply by L. J. Plumb, vice president of the U. S. Rubber Reclaiming Co., New York, to a statement made by William O'Neil, president of the General Tire & Rubber Co., on the use of reclaimed rubber in tires, Mr. O'Neil issued another statement, which was published in the *Daily Rubber Trade* and is reprinted below. Mr. Plumb's letter was published in the March 10 issue of THE RUBBER AGE and also in the *Daily Rubber Trade*.

"The fact," says Mr. O'Neil, "that I am interested in a reclaimed rubber enterprise and am director of that concern, would certainly tend to prove my interest and belief that there are a million uses for reclaimed rubber in place of higher grade rubber, but I contend that tires are not one of them.

"My contention is that in the last analysis the way to save rubber is to make the tires wear longer, thereby keeping the consumer from buying new sets of tires as frequently as would be necessary if he were compelled to use an inferior grade, such as would result from any large use of reclaimed rubber in its construction.

"Has Its Place in Industry"

"While I believe that reclaimed rubber should not be used in the manufacture of a tire carcass as a means of conserving the rubber supply, yet I do believe that reclaimed rubber has its place and can be put to good use in manufacturing articles such as soles and heels, belting, druggists' sundries and mechanical goods of all sorts. In other words, reclaimed rubber can be used as a substitute for new rubber and, in fact, its use is sometimes indicated in articles where there is no stretching or flexing of the rubber necessary to its proper use.

"An automobile tire must be capable of a certain amount of flexing and stretching. Therefore its structure should not contain any great amount of a substance that will interfere with this natural characteristic of new pure rubber.

"I will admit that it may be possible to use a certain quantity of reclaimed rubber in the tread stock of a tire without seriously affecting the quality of the tire, providing that the amount of reclaimed rubber is not over about 10 per cent, but any amount beyond 10 per cent, even in a tire tread, would tend to stiffen up the stock so that it would not be as good as a flexible new rubber stock.

"Minimizes Flexing Capabilities"

"Certainly any use of reclaimed rubber in the tire carcass structure would tend to minimize its flexing capabilities and would thereby tend to lessen its wearing qualities, as well as creating a liability of damage to the inner tube, a relatively pure rubber product which is a very vital part of the tire unit.

"It might also be feasible to use reclaimed rubber in the manufacture of a tire if it were the rule to use and maintain high air pressure, but the tendency has been away from high air pressure and the public is now demanding low air pressure such as the balloon tire. This demand is on account of its easy riding qualities which are the result of the easy flexing of the tire carcass. To provide this flexing the use of the finest friction and cushion rubber is absolutely necessary.

"There is another and very important feature involved in the use of reclaimed rubber in the manufacture of tires. This is the fact that the manufacturer can have no proper control over the uniformity of the stocks used in his product. The reclaimed rubber would be made from all sorts of old and discarded tires and other rubber goods, some of which may have been reclaimed before. Each time that rubber is reclaimed its quality, so far as proper stretching is concerned, is lessened."

WAR DEPARTMENT SEEKS GREATER TIRE MILEAGE

In order to economize in the use of pneumatic and solids for trucks and automobiles in the Army service, the War Department recently issued instructions that stock-record cards on a special form will be kept hereafter of all tires issued. This record will be kept with the U. S. registration number of the vehicle to which the tires have been issued.

Attention is invited to the common causes for failure to obtain maximum mileage from pneumatic tires. They are: Under-inflation, causing rim cutting; excessive speed; misalignment of wheels; overloading vehicles; improper adjustment of brakes; running on car tracks; improper application of non-skid chains; running the wheels against curbs etc.

The Return of *Alba*

ALBA WHITING

The Original Precipitated Whiting

Free from grit and hard particles.

Easy to mill.

Samples gladly furnished

INDUSTRIAL CHEMICAL CO.
200 Fifth Ave., New York

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CHICAGO, ILL.: Frank B. Tracy,
TORONTO, CAN.: T. E. O'Reilly.

RUBBER
NEWS IN VIEWS

Interesting Happenings in the World of Rubber

A new type of pneumatic rubber swimming ring which will support the body upright in the water. This type of collar should find much favor with those water nymphs who dislike to get their faces wet.

This strange person was one of the principal sights at the annual fair in Leipzig. He represented a company manufacturing automobile tires and tubes and aroused the interest of bystanders wherever he went.

Here's a balloon in the form of a balloon tire which was used as a dual advertisement for the recent German Auto Show and for the particular brand of tire. It could be seen for miles.

HOOVER SAYS RUBBER POLICY WAS JUSTIFIED

In an address made March 16 before a banquet of the Export Managers' Club at the Hotel Pennsylvania, New York, Secretary of Commerce Herbert Hoover asserted that his fight against British rubber control had served notice that American consumers could not be gouged with impunity.

Mr. Hoover said in part:

"The campaign of the manufacturers and consumers for better use and conservation of rubber is a demonstration that the consumer possesses a potent weapon even against the formidable character of governmental price-fixing and without resort to trade reprisals, and this movement is not confined to the United States.

"Any doubts as to what the result of this campaign has been in the diminished demand for new rubber goods and the corresponding increase in the demand for repair material and substitutes during the last sixty days can be resolved by inquiry among the rubber trade. And it has had a repercussion in the 50 per cent fall of rubber prices and a decrease in tire prices.

"I am convinced that the world has gained something from this effort far greater than the saving on rubber. It is a notice to the world that the consumer must have reasonable treatment by these controls. It has shown that speculation against the consumer in these commodities is a dangerous calling. It may help the enlightenment of the managers of such controls for whose actions we should not hold their countrymen responsible. It may check the formation of other price-fixing controls in some other 30 commodities where it is possible. This demonstration should thus make for less friction in the future. It will save us from resort to price-fixing schemes, and it may also save us from necessity of legislation. It has not been pleasing business, but the artificial suspension of the law of supply and demand is no parlor amenity."

Earle Bros. Chartered

Earle Bros. Corp., New York City, was recently chartered at Albany to deal in crude rubber. Authorized capital is 2,500 shares of preferred stock of $100 par value and 1,000 shares of common stock of no par value. Incorporators are Russell W. Earle, Jr., 120 Willow St., Brooklyn, N. Y.; William P. Earle, Jr., 120 Willow St., Brooklyn, N. Y.; and A. C. Forney, 333 West 10th St., New York. Masten & Nichols, 49 Wall St., New York, are attorneys for the corporations.

Lee Leases Floor

The Lee Rubber & Tire Corp. recently leased to John G. O'Keefe Co., publishers, the entire eighth floor in the building at 27-37 West 60th St., New York City. The floor contains 10,000 square feet and the lease runs for a term of 10 years.

HOUSE COMMITTEE REPORT NOT FAVORABLY RECEIVED

A quiet movement is said to be under way in the House of Representatives to secure positive action on the British rubber monopoly. The report submitted by a subcommittee of the Interstate and Foreign Commerce Committee, which in effect advised that American interests work out their own solution of the situation, met with immediate opposition from a powerful group of Democrats, supported by some Republican insurgents. This group was openly dissatisfied over the committee's failure to do more than endorse conservation campaigns and suggest that the United States should grow its own rubber.

Many Democrats, believing that the cotton crop occupies much the same relative position as British rubber and may be even more essential to world industry, advocate an American "Stevenson Act", similar to the British measure.

The Democratic movement for revision of the Fordney-McCumber tariff, which is expected to be a campaign issue, gained new impetus as a result of the House Committee report on the rubber investigation. Democrats have maintained that the Stevenson Act was caused primarily by high American tariff rates..

The full report submitted to the House will be found on Pages 431 and 432.

Aero Brand
DPG
DIPHENYLGUANIDINE
DOTG
DIORTHO-TOLYLGUANIDINE

The two most popular guanidine accelerators, made by the same process from basic raw materials which we control. Highest purity and uniform quality.

Stocks of Aero Brand DPG are carried at Warners, New Jersey; Akron, Ohio; San Francisco, and Azusa, California; Chicago, Illinois; Montreal and Toronto, Canada; and London, England.
DOTG is carried at Warners, N. J. and Akron, O.

Address all communications to New York Offices

AMERICAN CYANAMID CO.
511 FIFTH AVENUE NEW YORK, N.Y.

DIAMOND
MICA
NON-METALLIC WATER GROUND

Highest Grade for Rubber Industries

Pure—finely powdered—For use in tread stocks, repairing tires, in air bags, inner tubes and various kinds of molded mechanical goods.

Desirable as it is a Toughener and Heat Resister

THE HARSHAW FULLER & GOODWIN CO.
CLEVELAND, OHIO

MILLS

Crabtree, N. C. Newdale, N. C.

Samples upon request

STOCKS CARRIED AT

Cleveland, O. Trenton, N. J. Chicago, Ill.

TREATISE ON MACHINERY PUBLISHED BY CAMERON

The Cameron Machine Co., 61 Poplar St., Brooklyn, New York, has just received from the press a 48 page illustrated treatise compiled by them on the subject of strip cutting and winding machinery. This booklet will be mailed to anyone interested in the stripping of materials in textile mills or plants where strip is utilized.

In presenting a treatise on machinery for the cutting of fabrics, paper, rubber compositions, felt, foils, etc., into strips and winding them into rolls, the Cameron Machine Co. is showing the results of more than twenty-five years of intensive specialization along this line.

The whole subject of strip production has been given careful study and in outlining the basic principles on which their machines are built, the Cameron Machine Company has gone into detail to point out the difference between these principles and those used in other types of machines.

Camachine high speed, standard and specialty machines are dealt with and not only are the machines illustrated and described, but an interesting treatise on the subject of slitting and roll-winding accompanies the description.

The subject of slitting and roll-winding has been very meagerly dealt with in the average technical journal, and the various contributions of Cameron Machine Co. constitutes practically all the literature on this subject and the company invites the careful scrutiny and criticism of practical men in its efforts to avail itself of all technical and practical experience in this field. They devote themselves solely to the designing and building of machnes for producing strip in roll form from all kinds of material, in all widths and all sizes of rolls.

To Open Duluth Branch

On or about May 1, the United States Rubber Co. will open a branch office and warehouse at Duluth, Minn. Frank E. Church, general manager of footwear sales for the company and John H. Murray, manager of footwear sales at the St. Paul branch, recently spent two days in Duluth studying local conditions and examining possible quarters. According to Mr. Church, Duluth has been served by a resident salesman but business has grown to such an extent that a branch is warranted. The tire business will be handled by the same manager, H. G. Smith, but will be conducted from the branch when it is open. J. W. Schmittdiel, who has been resident salesman at Duluth, will be manager of the footwear department.

Sir Eric Returns Home

Sir Eric Geddes, chairman of the Dunlop Rubber Co., Ltd., recently sailed for England on the *Olympic*. Sir Eric has been in this country several weeks on a business visit.

SELL FIVE SEATS ON N. Y. RUBBER EXCHANGE

Five seats on the Rubber Exchange of New York, Inc., were recently sold, two at an advance of 300 per cent and two at an advance of 350 per cent in price. Walter M. Price, of Livingston & Co., purchased for a client the seat of Ira M. Hamilburg of the Plymouth Rubber Co., Canton, Mass., and the seat of William M. Pinney for $4,000 each. Several days previously J. Chester Cuppia of the New York Cotton Exchange firm of J. C. Cuppia & Co., paid $3,700 for the seat of Abraham H. Rosenwaig.

On March 9, the seat of Norman C. Davidson was sold to Benjamin Worth and that of J. F. Riddell, Jr. to Bernard Shotkin for $4,500 each. Memberships on the exchange, which opened for trading on February 15, originally sold for $1,000. The sales of seats are the first that have been made.

Laporte Named Trustee

L. A. Laporte, formerly sales manager of the New England Tire & Rubber Co., Holyoke, Mass., which failed in May, 1925, and one of the assignees of the company in the insolvency proceedings, was made trustee of the defunct company at the first meeting of creditors. This meeting was held recently in the office of Walter L. Stevens, referee in bankruptcy, in Northampton.

CARBON BLACKS

OF HIGHEST QUALITIES

Godfrey L. Cabot, Inc.

940 Old South Bldg. — BOSTON

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AND PRINCIPAL FOREIGN CITIES

Est. 1900 Inc. 1919

THE KUHLKE MACHINE CO.

Formerly Jones & Kuhlke

AUTOMOBILE TIRE MOLDS and CORES

GENERAL MACHINE WORK

Akron, Ohio

AKRON-WILLIAMS A-W PRODUCTS

Heater Presses
Molds and Cores
Tubing Machines

THE WILLIAMS FOUNDRY & MACHINE CO.

"In Business Since 1888"

AKRON, OHIO

IMPROVEMENT IN RETAIL TIRE TRADE REPORTED

Improvement in the retail tire trade is reported by manufacturers. It follows a period of dullness largely resulting from the irregularity of the rubber market and the cold weather. Sales managers note less resistance from dealers and look for larger orders from now on. Trade is also stimulated by the policy inaugurated by manufacturers of protecting buyers from further possible price declines on tires until July. This is especially so in the cheaper lines of tires.

The last price reduction, of 10 per cent, destroyed the confidence of many dealers, who felt it was not justified and would injure them by depreciating their inventories. The industry is just beginning to recover from the effects of this blow. Frequent rumors have been in circulation in Akron of another price cut to be made early in March, but as far as can be learned no such action is contemplated by manufacturers in the near future.

The big companies are endeavoring first to use up their high priced rubber before adjusting tire prices to the level of the current rubber market. Then, too, considerable strength has developed in the rubber market after the sharp break to 50c a pound. Despite the circulation of much bearish propaganda during the decline, some companies took advantage of the situation quietly to buy rubber for a considerable part of their spring and summer requirements.

Production of tires continues comparatively low, but most authorities agree that the bottom has been about reached, and that the next few weeks will see a satisfactory increase in output of casings and tubes from Akron factories as well as elsewhere. Because of their lack of original tire equipment business from the automobile companies to fall back on, the smaller factories have been hardest hit by the falling off in retail sales.

Most of the companies which sell tires only through dealers are operating on three and four days a week schedules. Night shifts in the big tire plants, like Goodyear, Goodrich, Firestone and Miller, have been substantially curtailed, but their production is being kept at fair levels. Some increase is noted in orders for tires from the automobile manufacturers.

Norwalk Reports Profits

The Norwalk Tire & Rubber Co., Norwalk, Conn., reports for the year ended December 31, 1925, a net income of $413,429, equal to $2.21 a share on common after allowing for preferred dividends. The report for the quarter ended December 31, 1925, shows a net income of $95,422 after depreciation, Federal taxes, etc. equivalent after allowing for 7 per cent preferred dividend requirements, to 50 cents a share (par $10) earned on $1,495,000 common stock. This compares with $108,125 or 58 cents a share in preceding quarter.

URGE DUTCH TO TAKE NEUTRAL RUBBER STAND

Rubber statistics recently issued at The Hague indicate that one-fourth of the area planted with rubber in the Dutch colonies is more or less under British control and it is said that this control is likely to be further extended in the near future.

As Americans also have acquired considerable interest in the plantation industry, the Dutch administration is faced with a difficult problem. It is admitted that Holland has greatly benefited by the British measures to restrict production, but it would be a great mistake, the compiler of the statistics points out, for Holland to range herself on either side in the mighty clash of American and British interests. Political influence, it is argued, should not be permitted to enter into the problem, in the solution of which Dutch economic considerations alone should provide the guiding principle.

Foxboro Moves Branch

The Foxboro Co., Inc., Foxboro, Mass., manufacturers of indicating, recording and controlling instruments for temperature, pressure, humidity and flow, recently announced the removal of its Chicago office to Rooms 204-206, St. Clair Bldg., 154 East Erie St. C. H. Roessner continues in charge of the Chicago office.

WHITING

Domestic

SUPERFINE

Snow-White

300 mesh

A *quality* product
at moderate price

WM. S. GRAY & CO.
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RECLAIMED
RUBBER

Grey—Black—Red

We Specialize in Fine Reclaimed Rubbers.

Your Inquiry Is Solicited.

THE DEFIANCE RUBBER CO.
Defiance, Ohio

CHRYSLER ELIMINATES SHOCKS WITH RUBBER

Chrysler engineers were the first to insulate engines from the frame by the use of properly applied rubber insulation. Rubber is unique in its ability to dampen vibration, but inasmuch as there are no vibrations in the new Chrysler Imperial engine due to the remarkable balancing of the crankshaft and all reciprocating parts, its use arrests resonance traveling through the legs of the engine to the frame, or vice versa.

A stethoscope test of body noises in an engineering laboratory department reveals much grating, scraping and rasping that is inaudible to the ear when the car is in motion. This condition exists to a degree in all bodies, due to the multiplicity of sounds developed by an engine, which are passed on to the body through the engine supports and frames.

Chrysler engineers have eliminated the possibility of these extraneous noises being transmitted to the body. In the Chrysler Imperial engine they have succeeded in providing utmost horsepower and speed and in the ingenious mounting of the engine they have produced this greater power without those noises and vibrations that are so fatiguing and objectionable to the passengers.

Rubber insulators have been provided at the rear of the Chrysler Imperial engine. These are completely encased and protected from oil in metal brackets, which have no connection with the side rails of the chassis frame, and are bolted to a banjo cross member so that the rear of the engine literally floats on its bracket of resilient rubber without transmitting any torsional shocks or resonance into frame and body.

Use of these insulators eliminates the necessity of shackle lubrication, and it is claimed insures better tire mileage and a reduction in maintenance cost and worry.

Columbia Gets Equipment

New equipment was recently installed in the factory of the Columbia Tire Corp., Portland, Ore., in anticipation that 1926 will be the biggest year in the company's history. Some of the equipment was worked out by the company's engineers and built in the factory machine shop. The new equipment will double the capacity of the factory.

Succeeds H. R. Greenlee

H. R. Greenlee, receiver of the Sound Rubber Co., Tacoma, Wash., recently filed his report and requested the court to accept his resignation. J. E. Berkheimer was appointed to succeed him.

Rubberland Chartered

Rubberland, Inc., Cincinnati, Ohio, was recently incorporated with an authorized capital of $20,000 to deal in rubber goods. Incorporators are James M. Riffe, H. L. Ansted, E. Heckman, L. H. Cassidy and K. Eldridge.

ESTIMATE 1926 RUBBER SURPLUS AS 43,000 TONS

(Special to THE RUBBER AGE*)*

Some interesting estimates have recently been made in London rubber circles of the probable amounts of world rubber production and consumption during 1926. Most of these have anticipated some addition to stocks on the year. In an annual supplement to their monthly publication *The World's Rubber Position,* W. H. Rickinson & Son, well-known brokers, also take this view, their estimate of the year's probable surplus being 43,000 tons.

This figure is arrived at on the basis of an available supply of 657,000 tons and requirements of 614,000 tons. Of the total supply, 300,000 tons are attributed to British Malaya and 60,000 tons to Ceylon, the Dutch East Indies being credited with 220,000 tons. These totals represent increases over the shipments during 1925 or slightly more than 100,000 tons in the case of British Malaya and Ceylon, and 27,500 tons in the case of the Dutch East Indies.

Of the world's requirements the United States is expected to account for 420,000 tons, or 68.4 per cent of the total, comparing with 381,000 tons—73.6 per cent of the total retained—in 1925.

It is pointed out in the latest issue of a well-known London produce concern's circular that it will be necessary to wait until the May-July quarter before an opinion can be formed of the real producing capacity of the British areas.

CABARRUS COTTON MILLS

M. L. CANNON
PRESIDENT & TREASURER

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Superior Quality Tire Fabrics

EGYPTIAN-PEELER
KARDED & COMBED
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Representative

SECOND CHEMICAL EQUIPMENT SHOW TO BE HELD AT CLEVELAND IN MAY

3,000 Executives, Chemists, Engineers and Operating Men Expected to Attend Exposition in Public Hall, May 10 to 15—Exhibits Will Cover Wide Range

Upward of 3,000 executives, chemists, engineers and operating men, many of whom will be associated with the rubber and kindred industries, are expected to visit the Second Chemical Equipment and Process Engineering Exposition at Public Hall in Cleveland, May 10 to 15, inclusive. Displays will include equipment, machinery, materials, accessories, supplies, etc., essential or applicable to the whole multitudinous range of industrial uses embraced within modern processing technology.

The exposition is being sponsored by the Association of Chemical Equipment Manufacturers, Inc., 1328 Broadway, New York, and will be run not for profit but to advance a definite technical idea—the processing idea. "Once understood," says G. O. Carter, president of the Association, "there is no idea that our productive industries can apply more profitably.

"To present, round out, and promote this idea means the assembling of something more than simply another and ordinary 'show.' It requires the composition of a picture in which the chemist, the chemical engineer, and the chemical equipment designer and builder and their achievements are related properly to the whole range of applied physical and chemical science. It means a realization throughout the technical professions that there is this relationship and 'heading-in' to the reality of process engineering."

To Hold Technical Sessions

In conjunction with the Exposition, technical sessions will be held in which chapters or sections of the following organizations will participate: Cleveland Engineering Society, American Association of Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Civil Engineers, American Society of Heating and Ventilating Engineers, American Society of Mechanical Engineers, American Society for Steel Treating, American Welding Society, Society of Industrial Engineers.

Equipment used solely in or applicable to the following industries will be seen at the exposition: Rubber, heavy chemical, fine chemical, petroleum, pulp and paper, dye, alcohol, fertilizer, electro-chemical, coal products, explosives, paint and varnish, electro-metallurgical, soap, food products, ferrous and nonferrous metallurgical, leather, ceramics, textile, animal products.

No ticket will be required for show admission; it will be open to every industrial and technical man in the country, and will not be open to the general public. To gain admittance industrial men have only to register at the entrance.

Mason Earns $576,585

Net sales of the Mason Tire & Rubber Co., Kent, O., were $9,436,567.33 in 1925 and the net operating profit was $576,585.97, according to Secretary W. A. Cluff, who reports that conservative buying enabled the company to save large sums on raw materials purchased at the peak of prices on the rubber market.

The company's assets were $2,741,221.24 and liabilities amount to $1,231,437.10. Depreciation amounted to $218,146.66. Interest, discounts and adjustments totaled $260,000 additional, leaving a net addition to the surplus fund of $165,960.88.

Mason's total deficits were reduced to $274,932.85 for Jan. 1, 1926, and ample reserve funds were provided.

Perfect Beads

Entire freedom from bead trouble in the construction of straight side tires is assured by the use of either National "(Patent)" High Tensile Strength, Flat Woven, Bead Braid or our new (Pratt Patent) Bead Cables. These cables, made to dimensions specified, have seven strands, yet only one piece of wire is used without soldered, welded or brazed joint.

Write for working samples of either National flat braid or Pratt cables (no charge to tire manufacturers) and full information as to our products and service.

Our engineering department tests beads and furnishes complete confidential reports as to their stretch, set and bursting point, without charge. Inquiries solicited regarding this special service.

National Standard Company
Niles, Michigan

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Balloon tires owe something of their popularity to Diphenyl Guanidine. This pioneer accelerator gives positive results — with every stock and for every purpose.

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FIRESTONE PLANTATIONS REGISTERED IN LONDON

(*Special to* THE RUBBER AGE)

Firestone Plantations, Ltd., formed "to acquire, hold, and work any lands producing rubber trees", was recently registered in London. This is in connection with Harvey Firestone's immense Liberian project and marks a concrete stage in a venture which has been considered in British rubber circles to a certain extent fantastic and impractical.

It is believed that the scheme will benefit British trade, for it appears that a large proportion of the stores, medical supplies, machinery, tools, etc., required by the firm will be drawn from Britain. When the scheme was first made public it was presumed the necessary material and stores would be obtained from America, but it now seems that only part of the personnel will be drawn from the United States. The remainder will be British, and the London offices of the Firestone Tire & Rubber Co., are being used as a center from which most of the material and stores for the new project will be purchased.

Two directors of Firestone Plantations are now in London, and from them it was learned that large orders would be placed in England. They state that tools, stores, supplies, etc., of all sorts are being purchased, that much more will be needed, and that $100,000 has already been expended in this way.

The chambers of commerce of England's industrial cities have been notified that the firm is in the market for equipment, but the directors of the firm say they are disappointed that members of the chambers have neglected to follow up the notice given, and have found Continental firms more ready to cater to their requirements.

Both the directors referred to are British and are connected with the Firestone Tire & Rubber Co., of England.

"Ideal" Air Releaser

A tool for easily releasing air from inner tubes can be used to advantage by tube manufacturers as well as tire dealers, vulcanizers and motorists who mount their own tires or make road repairs. Such a device is the "Ideal" Air Releaser, manufactured by Van's Auto Specialty Co. of Clyde, Ohio.

The devise consists of a steel spring, shaped like the letter "U" inverted, through the top of which is a small rod. On the bottom two holes are stamped out which slip over the valve stem when the sides of the releaser are pressed together. The tool is pressed on the valve stem until the plunger strikes the valve core when the sides are released. The spring then engages the threads on the valve stem, the air escapes and both hands are free to roll up the tube or remove the tire from the rim. The device is made of a special tough steel well machined, and it is claimed, will not wear the pocket.

LEE RUBBER REPORTS $300,209 NET PROFIT

The Lee Rubber & Tire Corp., New York, recently reported a net income of $300,209 for the year 1925, equivalent to $1.39 a share on the outstanding capital stock. This compares with a net loss of $234,473 for 1924. Net sales for the year of $12,742,585 represented an increase of $157,000 over the previous year. The company effected a saving of approximately $361,000 in operating costs, materials, etc.

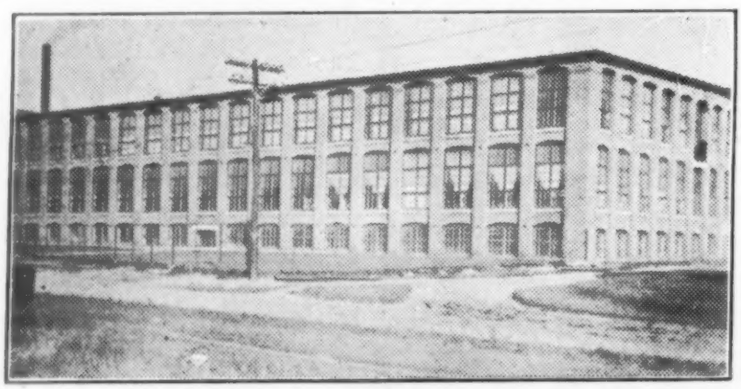
Surplus as of Dec. 31, was $2,253,294. Total assets were $15,076,925, of which $7,988,719 were current assets. Current liabilities were $4,367,303. Factory and equipment is carried at $6,862,278.

In his statement to stockholders, John J. Watson, Jr., president, said: "On January 7, the directors decided to increase the capital stock of your company by offering pro-rata to stockholders the balance of the authorized but unissued stock of the company, resulting in the company having outstanding at the present time 300,000 shares of stock. This supplies the company with approximately $1,000,000 of additional capital."

Rubber Heel Registered

The Durable Rubber Corp., Detroit, Mich., recently registered the trade-mark "Fit-Fast" in the U.S. Patent Office under Ser. No. 210,368. The trade-mark has been used since last February on rubber heels.

For Sale



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BLACK PRESSES DEMAND FOR A RUBBER INQUIRY

A demand for an investigation of the domestic rubber industry, to supplement the work of the House Committee on Interstate and Foreign Commerce under the Tilson resolution, was made March 11 in a letter by Representative Black of New York to Chairman Snell of the House Rules Committee. Mr. Black is the author of a resolution calling for such an investigation, which was referred to the Rules Committee.

"Shortly after my resolution was introduced the tire companies announced a reduction of 10 per cent in the price of their products, though some leading manufacturers had shortly before suggested an increase," declared Mr. Black in his letter. "Their reduction was largely due to speeches made on the floor of the House showing the great earnings of tire companies during the course of the Stevenson plan.

"In the interest of the American consumers, with those enormous earnings back of them, predicated on high crude rubber prices," concluded Representative Black, quoting the earnings of the larger companies, "the companies, in view of the low crude rubber market, could make a more substantial reduction than 10 per cent. Congress has taken up the rubber question, and until it goes into it exhaustively, as my resolution provides, the American consumers will not be satisfied with our efforts in this matter."

To Make Tire Patches

The Reliable Reliner & Patch Co., Inc. New York, was recently chartered to manufacture tire patches and tire accessories. Authorized capital is $20,000. Incorporators are Leonard Homer, 1340 Morris Ave., Michael Yagoda, 1267 Sheridan Ave., Bronx, N. Y. and Louis Brotman, 388 South First St., Brooklyn, N. Y.

Carrier Assigned Patent

Paul R. McCampbell and Oren M. Harry Hunter, late of Indianapolis, have assigned by mesne assignments, to the Carrier Engineering Corp., Newark, N. J., a process and apparatus for treating reclaimed rubber, recently granted U.S. Patent No. 1,558,546. The process consists in exposing to the air a mass of small pieces of reclaimed rubber. The pieces are agitated and repeatedly dropped through the air to separate them and maintain at a maximum the surface exposed to the air. The air is maintained at a relative humidity of between 15 and 75 per cent and at a temperature higher than 110° F.

AMERICAN CYANAMID CO. ADDS TWO WAREHOUSES

Stocks of Aero Brand DPG, manufactured by the American Cyanamid Co., are now carried at Chicago, Ill. Formerly, stocks of this accelerator were only carried at Warners, N. J.; Akron, Ohio; San Francisco, Cal.; Azusa, Cal.; Montreal, Can.; Toronto, Can.; and London, Eng.

DOTG (diortho-tolylguanidine) is now carried at Akron, Ohio, in addition to where it was carried exclusively heretofore.

Mail Order Tires Higher

Two large mail order companies advanced their tire prices from eight to 10 per cent just at the time tire factories announced reductions ranging from three and one-half to 10 per cent. A. L. Murray, president of the Murray Rubber Co., Auburn, Ind., told recently of discovering this joker in 1926 spring and summer mail order catalogs. The Auburn company announcement of a reduction in tire prices of from 15 to 25 per cent preceded the general reduction made during the first week of February.

Cuba Encourages Planting

The Cuba Government with the idea of encouraging the growing of rubber has established a bounty of 50 cents for every rubber tree that is planted and successfully grown. The climate and soil conditions in Cuba are said to be favorable for rubber.

Thermo Electric Moves

The Thermo Electric Instrument Co., manufacturers of Freas electric ageing ovens and Thelco constant temperature apparatus, recently announced removal of its office to 1206 South Grive St., Irvington, N. J. The company was formerly located at 8 Johnson St., Newark.

SAYS PHILIPPINE LABOR FAVORS RUBBER GROWING

Labor conditions will not hamper the growing of rubber in the Philippine Islands, according to the statement of Norbert Lyons, secretary of the United States Mission-American Chamber of Commerce of the Philippine Islands, in discussing the prospect for rubber growing in that territory.

"Notwithstanding recent assertions to the contrary, labor conditions in the Philippine Islands are favorable to the growing of rubber," said Mr. Lyons. "Official reports as well as testimony from practical industrial leaders all point to the fact that adequate and good labor exists in the islands for any future developments along these lines.

"The statement that Filipino labor is not as good as the labor in the Middle East cannot be substantiated by records. Dr. J. W. Strong, president of the American Rubber Company, who has had twenty-one years of experience in growing rubber in the Philippines, recently rendered a report in which he found Filipino labor more efficient, dollar for dollar, than Indian, Malay or Chinese labor. Many large industrial enterprises in the Philippines, notably the Atlantic Gulf and Pacific Company, have tried out labor of different races and nationalities, and their conclusions have been that Filipino labor, properly handled, is superior to any other in the tropics."

MAY ELECT NEW GOODYEAR PRESIDENT ON MARCH 29

It is expected that a president to succeed the late George M. Stadelman will be elected by the Goodyear Tire & Rubber Co., following the meeting of stockholders which is slated for March 29 in New York City. Although there is nothing to suggest a single name as the probable new president, the following three men have been discussed in Akron as possibilities:

P. W. Litchfield, vice president and factory manager and president of Goodyear-Zeppelin, who has been connected with Goodyear for 25 years, is thought to be a strong candidate. F. K. Espenhain, vice president in charge of sales, has also been named as a possible candidate. The third man is H. H. Springford of Detroit.

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PREDICTS BIG INCREASE IN NATIVE PRODUCTION

(*Special to* THE RUBBER AGE)

The Batavia correspondent of the *London Times*, who recently made a tour of Pontianak and Dutch West Borneo, declares in a lengthy communique that native rubber production is increasing at the rate of 50 per cent per year. In Malaya it is believed that native rubber production has almost reached its peak and must in a year or so decline. Speaking of West Borneo, the correspondent says it is certain that in this part the increase will be phenomenal. The Malays and Dyaks are mad on rubber planting and West Borneo has become a place almost impossible for Europeans to live in. The same can be said of Palembang, Samarinda, Djambi, Bandjermasin, and other smaller places where rubber grows easily.

Native "Planting"

It is misleading to speak of native "planting". A Malay or Dyak clears a portion of jungle very roughly and plants rubber seeds. There is no spacing, weeding, or sign of civilized planting. In time ordinary jungle filled with a variety of trees becomes a rubber jungle full of hevea trees. Rubber seems to thrive under this treatment and trees 12 and 14 years old are to be seen surrounded by little saplings that have sprung from the seeds falling from the big tree. The trees look healthy.

Production from native plantations is on the partnership plan. The workman taps the tree, collects the latex, coagulates in an empty gasoline tin, rolls the rubber on a board with a rolling pin, and hangs out the slab of rubber, an inch or so thick to dry a little. The owner sells it the next day, the price being divided between the owner and the workman. Consequently the owner gets his work done for nothing, and the workman or tapper makes 10 or 12 times the wages he could get working on a European-owned estate.

In the natives' own interests the Government has now started to limit the thickness of the slabs to prevent so much dirt being hidden. The washing factories buy anything containing raw rubber, and some of the crude stuff received contains as little as 30 per cent rubber. This is all turned into crepe. The low lying ground, thousands of square miles of it, which occurs in East Sumatra, and West, South and East Borneo is similar in climate to that of the natural home of hevea on the Amazon.

There are seven mills in Pontianak, mostly chinese-owned, where native rubber is bought. The crepe produced is of good appearance and fetches only four cents (U.S.) per lb. less than standard. The approximate total rubber production for the Dutch East Indies in 1925 is:—

	TONS
Estate rubber (Java, 43,600 tons; other sources, 60,400 tons)	104,000
Native rubber (129,700 tons, less estimated dirt and water)	84,000
Total	188,000 tons.

United Shoe Assigned Method

The method of producing rubber articles, which was recently patented by Eugene J. Ray, under U. S. Patent No. 1,558,505, has been assigned to the United States Shoe Machinery Corp., Paterson, N. J. The method consists of cold molding and condensing a mass of unvulcanized rubber composition of one character, under pressure, to the exact size and shape of a portion of a vulcanizing mold adapted to produce the entire article. The molded mass is fitted into this portion of the mold and a sufficient mass of unvulcanized rubber composition of another character to fill the remaining space in the mold is inserted.

T. C. Marshall Quits Kelly

T. C. Marshall, vice president of the Kelly-Springfield Tire Co., New York, and connected with the company for 25 years, has tendered his resignation. He has served in many capacities and at the time of his resignation was manager of the Cumberland factory.

Orders Sure Foot Sale

Judge Donald P. McPherson sitting in Adams County recently ordered Roy P. Funkhouser, receiver of the Sure Foot Heel & Rubber Co., Gettysburg, Pa., to sell the assets of the company at public sale. The decree did not fix the time limit in which the sale must be made, but it is expected to be held within the next three weeks.

THINKS RUBBER GROWING IN FLORIDA UNPRACTICAL

That the rubber problem could only be solved by reclamation, increased production by independent small growers and the possible success of rubber-growing on a large scale in Liberia was the opinion expressed by Charles R. Toothaker, curator of the Commercial Museum, at the monthly meeting of the Motor Truck Association of Philadelphia held recently.

"The reclamation of scrap rubber," Mr. Toothaker said, "seems to be the most immediate hope of relief. Last year one-fourth of the scrap rubber in this country was reclaimed, and this year about one-third will be salvaged—the product going into rubber soles and heels and into solid truck tires, for which it is perfectly suited.

"Stabilization in rubber prices seems to be approaching after the disastrous cuts following the war and oppressive high prices of a few months ago. For five years it was around 36 cents a pound.

"American capital should invest in rubber growing to help control markets and prices, but I believe it is impractical to grow rubber in Florida or Texas, and an unsafe investment to attempt it in Mexico or the Philippines."

McDaniel Quits Goodyear

Charles W. McDaniel has resigned as manager of tube sales at the Goodyear Tire & Rubber Co. to became vice president and account executive of Eddy & Clark, Inc., advertising agency of Akron. He had been with Goodyear for seven years. Members of the sales department gave a farewell banquet in his honor Feb. 25.

Goodyear to Build in N. Y.

The Goodyear Tire & Rubber Co., Akron, has authorized the erection of a six-story warehouse at the southwest corner of Eleventh Ave. and 58th St., New York City. It will be the first tire warehouse in New York to have its own railroad siding, making it possible to run the cars directly into the building. The structure will be 66 by 100 feet.

Patented Aug. 25, 1914

IDEAL AIR RELEASER

Many factories and vulcanizing shops in all parts of the United States are using this little tool as standard equipment.
We want more factories to try them out and more vulcanizer's supply houses to stock them.

Write us for particulars.

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New Jersey Rubber Company located near New York has a lucrative opening for a Sales Executive to create new business and build up present moulded mechanical sales. Present volume $500,000 annually. Applicant to be considered must be qualified by a long, successful record in the rubber business. Answers confidential. State qualifications fully.

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THE RUBBER AGE, 225 Fourth Ave., N. Y.

SCRAP RUBBER DIVISION HOLDS ANNUAL MEETING

The Scrap Rubber Division of the National Association of Waste Material Dealers held its annual meeting at the Hotel Astor, New York, March 15. The meeting was held in the morning and E. B. Friedlander, of the Lowenthal Co., Chicago, chairman of the Division, presided. Trade customs and specifications of packing were the principal subjects discussed. It was voted to change the trade custom from a 15-ton minimum to one in line with the carload minimum of the railroads in the territory where the shipment of scrap rubber originates.

Specifications were discussed for mixing inner tubes, with particular reference to red tubes. The matter was referred to the classification committee. Heels in boots and shoes and the advisability of making separate divisions for colored boots and shoes were also referred to the committee.

Mr. Friedlander was reelected chairman of the Scrap Rubber Division for another year. The National Association of Waste Material Dealers held its annual banquet at the Hotel Astor on the evening of March 15.

Allen Factory Sold

Dr. Henry D. Jordan, one of the receivers for the Allen Tire & Rubber Co., Allentown, Pa., recently sold the factory to the Allentown Mfg. Co. The site covers nearly five acres upon which there is a main building 60 by 260 ft., a boiler house 36 by 60 ft., an office building 38 by 60 and several small garages. The consideration was not made public.

LONDON BROKERS PREDICT SHORTAGE IN TWO YEARS

(*Special to* THE RUBBER AGE)

In their annual review of the rubber market, Symington & Sinclair, the London brokers, show that the world's consumption for 1925 amounted to 552,000 tons, against 475,000 tons in 1924, an increase of over 16 per cent. Production is put at 500,000 tons, showing an increase of 80,000 tons over 1924. The excess of consumption over production in 1925 was 52,000 tons, against 55,000 tons in 1924, and 52,000 tons in 1923.

The review states that the extreme prices of November and December can only be accounted for by the fact that some buyers lost their heads and bought wildly, giving the impression of a practically insatiable demand. In any market where supply and demand are so closely balanced as they are in rubber just now, prices are bound to run to extremes in both directions. This, it is added, is a condition which must be expected to continue till world stocks are on a sounder basis.

Of the total consumption last year Symington & Sinclair attribute 386,000 tons to America, against 335,000 tons in 1924; the United Kingdom is credited with 30,000 tons, against 27,000 tons; France with 36,000 tons, against 35,000 tons; and Germany and Austria with 37,000 tons, against 22,500 tons. The Malayan production is put at 198,000 tons, an increase of 33,000 tons. That of Ceylon is put at 42,000 tons, an increase of 5,000 tons, and that of the Dutch East Indies at 190,000 tons, an increase of 28,000 tons.

Production and consumption for 1926 are estimated at 626,000 and 603,000 tons respectively, giving a surplus of 23,000 tons. Malaya and Ceylon are expected to produce an additional 107,000 tons, and the Dutch East Indies an extra 9,500 tons. American consumption is put at 415,000 tons.

Malaya's total exports for 1925 showed a declared export value of 746,230,000 Straits dollars (Straits dollar=49.8 c. U.S.) for 259,704 tons in 1924. This works out at about 60 cents per pound for 1925, against 26 cents per pound in 1924.

Taking as a basis progressive annual additions of 5 per cent, it is estimated that in 1931 the production will amount to 800,000 tons per annum. Consumption, figuring an 8 per cent progressive increase, is estimated at 888,000 tons for 1931, or with a 10 per cent increase, 970,000 tons. In the former case there would be a culmative deficit of 168,000 tons, and in the latter a deficit of 389,000 tons. Of course, such a position could not actually exist, as the rubber would not be there to consume, and Symington & Sinclair do not put it forward as a forecast. They remark, however, that a period of scarcity seems indicated to commence in 1928, or even in 1927 if consumption increases at the rate of more than 10 per cent per annum.

Show Model of Insulator

The Rubber Shock Insulator Co., 252 West 64th St., has devised a working model of its rubber shock insulator or spring shackle. This model measures only 6¾ by 3½ inches but cleverly demonstrates the action of the rubber cushion as the spring is moved. New Chrysler cars are equipped with rubber shackles manufactured by the Rubber Shock Insulator Co.

United Asbestos to Build

The United Asbestos & Rubber Co., 2834 Loomis St., Chicago, plans to erect a new one-story factory on Fifty-fourth Avenue, 22d to 23rd St., Cicero, Ill. The plant will be 80 by 325 ft. and is estimated to cost approximately $100,000, with equipment.

Interest in Patent Assigned

One-half of the interest in U.S. Patent No. 1,558,706, recently issued to Harvey F. Mitzel of Providence, has been assigned to The Golf Ball Corp. of America, Wilmington, Del. This golf ball is composed solely of a vulcanized spherical center and an outer shell covering of balata, the two being permanently united by several interengaged integral portions, and thus rendered immovable in use.

SAY STOCKS AT CLOSE OF 1925 WERE VERY LOW

Stocks of rubber in the United States at the end of 1925 were the smallest of any time since the spring of 1920, according to a chart just issued by Henderson, Helm & Hammesfahr, members of the Rubber Exchange of New York. In the last months of 1925 stocks here were down to about 35,000 tons, against 105,000 in the summer of 1923, the maximum during the last five years. At the beginning of this year they were approximately 50,000 tons.

The stocks in Liverpool and London at the beginning of 1926 were under 10,000 tons compared with about 33,000 tons at the beginning of 1925 and 80,000 tons at the beginning of 1923. The total stock, including stocks at Amsterdam, Antwerp and Para, but not stocks afloat, was about 85,000 tons in February, 1926, compared with more than 200,000 tons at the beginning of 1923, according to the chart, copies of which may be secured upon application to Henderson, Helm & Hammesfahr.

A Correction

A review of the two volumes edited by Allen Rogers on "Industrial Chemistry" published on Page 138 of our November 25 issue carried the intimation that these books were sold separately. The publishers, D. Van Nostrand Co., 8 Warren St., New York, inform us that such is not the case.

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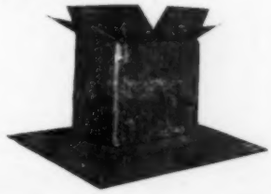

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FACTORY EQUIPMENT

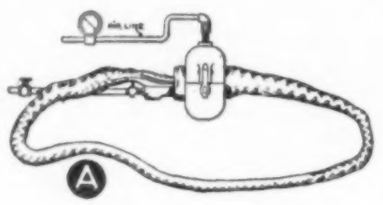
PNEUMATIC TUBE STEAM SPLICER SAVES STOCK

The tube splicer illustrated herewith is one known and used by many inner tube manufacturers in the United States, Canada and foreign countries. It is made by the Pneumatic Inner Tube Splicer Co., Highlandtown Post Office, Baltimore, Md.

The complete assembly of the splicer in operation is shown in A. Figures B and C respectively show the splicing mandrel assembly with the tapered guide, and a sectional view of the splicer with pneumatic clamp in operation.

In using this device the tube splice is prepared in the usual manner, using quick-curing cement. The ends of the tube are brought together and spliced ready for vulcanizing and then the tube is placed inside the mandrel through the key way. The key is closed, the guide, which is in two halves, inserted (note the tube is inside the guide), the tube is then inflated to form and the operator easily forces it back over the mandrel with the splice in direct contact with the steam heated surface, the tube extending about ½ inch over the rear end of the mandrel to avoid wrinkling. The pneumatic clamp is then placed over the splice and a uniform pressure is exerted on the splice while curing. The guide prevents wrinkling where the tube passes around the end. Time of cure on all sizes up to 5½ inch should not exceed 10 minutes at 65 lbs. steam pressure.

It is claimed that this splicer reduces the length of splice and effects a saving in stock. It also insures a better product because the splice is leak proof.



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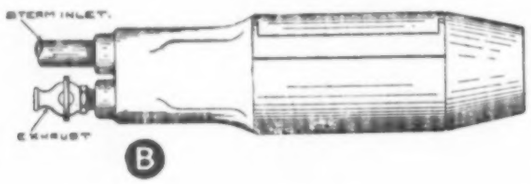

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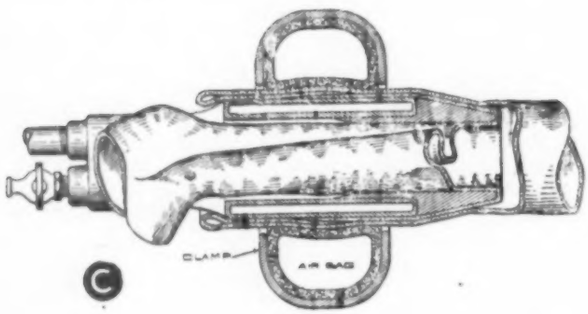


C

Patents Tire Fabric

Butler Ames, of Lowell, Mass., has been granted U.S. Patent No. 1,559,142. This covers a cord tire fabric of ladder-like construction, comprising a pair of solid bead cords, these consisting of inter-braided strands and a series of strands, connecting the cords. Certain of the strands consist of inter-braided filamentous elements.

General Rubber Gets Patent

Charles E. Bradley, Montclair, N. J., and Joseph G. Coffin, Hempstead, N. Y., who were recently granted U.S. Patent No. 1,558,586, have assigned their invention of a sprayer to the General Rubber Company, New York City. The sprayer, which is designed for latex or other liquid, comprises a smooth, unobstructed disc. It rotates and allows for a central discharge of the liquid from the disc. A tubular wall terminating closely adjacent to the disc and a surrounding wall concentric therewith and coacting with the disc to form an adjustable outlet are features of the sprayer.

"Red Chief" Registered

The trademark "Red-Chief", used since September, 1922, on inner tubes manufactured by William Ralph Calhoun, doing business as Red Chief Rubber Co., Fort Worth, Texas, was recently registered in the U.S. Patent Office under Ser. No. 206,939.

PLAN FOR MODIFICATION NOT POPULAR IN LONDON

(*Special to* THE RUBBER AGE)

An unofficial forecast of modifications of the Stevenson restriction scheme which, if put into effect, would spell a quota of 130 per cent of standard production in August, has not been received with enthusiasm in London, and there is a desire in the trade that some official announcement should be made at the earliest possible moment.

The ten per cent increase in exports from the beginning of November is now being seen in cargoes reaching Britain, and, at this writing, London stocks have reached the reasonable figure of 11,681 tons — an addition of 7,882 tons since the end of November, when stocks fell to their lowest point at 3,799 tons. The present is the first time since May last that stocks have been over 7,000 tons.

Outwardly this seems favorable to users, but there are rubber company directors in London who do not hesitate to express the opinion that a period of universal buying must soon set in which will force the price of crude rubber to over 6s. ($1.50) before many months have passed.

Europe has been reported a better buyer of all grades of rubber, but the cargoes which have been lately going direct to Hamburg are now said to have been diverted again to London, a factor which may be partly responsible for the increase in stocks.

On the other hand, there are those who believe that the period of acute scarcity has now passed, and that the present rise in stocks reflects both the presence and prospect of increased supplies. It should be remembered that areas subject to compulsory restriction exported during 1925 at an average of only 67 per cent. The present "standard production" is 326,000 tons, and with the exportable percentage at 100 or more in 1926 an additional supply from restricted areas alone of 100,000 tons or over is possible, provided adequate labor is obtainable. These possibilities are worth attention in view of last year's production and consumption, which amounted to approximately 500,000 tons and 560,000 tons respectively.

The extent to which consumption in 1926 may be expected to offset production is the subject of some interesting remarks in the annual review of Lloyd, Matheson, & Carritt. According to this firm, a production of 653,000 tons is anticipated, against which absorption is expected to be about 615,000 tons. To produce the latter figure increased demand is looked for all over the world.

Tire Core Patented

Arthur E. Bauman of Akron was recently granted U. S. Patent No. 1,588,455 on a tire core. The patent covers a tire having a yieldable core, which is provided with a plurality of rows of laterally disposed rings extending circumferentially about it, with spaces between rows.

Report of Congressional Inquiry into Crude Rubber Monopoly

House Committee Suggests Rubber Planting Under American Control, Conservation, Refusal of Loans to Offending Governments and Development of Substitutes But Does Not Favor Subsidies or Reprisals.

Following is the complete text of the report of the House Committee on Interstate and Foreign Commerce on its investigation of foreign control of production and exportation of various raw materials, including rubber. Those portions of the report dealing specifically with materials other than rubber, such as sisal, coffee and nitrates, are omitted in the accompanying text. Readers of THE RUBBER AGE will recall that in previous issues a complete summary of the testimony of the witnesses was given. The Committee started its investigations on January 6 and continued them for several weeks. This report was made public on Saturday, March 13, 1926.—EDITOR.

The Committee on Interstate and Foreign Commerce, to which was referred House Resolution No. 59 to investigate the control of production and exportation of certain essential raw materials and the effect of such control upon the commerce of the United States and to report by bill or otherwise in one or more reports, having considered the same and conducted said inquiry, beg leave to submit this preliminary report.

History and Scope of the Inquiry

Prior to and especially since the war, reports came to this country of efforts by foreign governments to control the production or exportation or both of certain raw materials essential to our welfare. Therefore, the Sixty-seventh Congress, in February, 1925, authorized and made appropriation for an investigation by the Department of Commerce of the growth and extent of foreign government controls of the production and exportation and the prices of crude rubber, coffee, nitrates and other raw materials essential to our needs and of which the United States was the largest single importer, and whether these controls were being used to the detriment of the American consumer.

While this work was nearing completion there arose louder and more pronounced complaints as to the alleged detrimental effect of these controls, especially in increasing prices. Thereupon, the Majority Floor Leader, Mr. Tilson introduced, and the house, on December 21, 1925, passed, House Res. No. 59, reading as follows:

"Resolved, That the Committee on Interstate and Foreign Commerce be, and it is hereby, authorized and empowered to investigate, by subcommittee or otherwise, the means and methods of the control of production and exportation of crude rubber, coffee, silk, nitrates, potash, quinine, iodine, tin, sisal, quicksilver, and other important raw materials and their effects upon the commerce of the United States, both as to supply and to price, and to report to the House its findings and recommendations thereon; said committee shall leave to report by bill or otherwise at any time on the matters herein stated in one or more reports."

The resolution was referred to the Committee on Interstate and Foreign Commerce.

General Findings of the Committee

Exhaustive hearings were held. There appeared Mr. Secretary Hoover, Dr. Julius Klein and other officials of the Department of Commerce, special investigators of that Department, representatives of the rubber industry, the Rubber Association of America, the American Automobile Association, the Farm Bureau Federation, Bureau of Standards, etc. The Committee finds:

1. That controls of either production or exportation which materially affect prices have been instituted by direct or indirect foreign governmental action as follows:

The Government of Great Britain, through direction of its Colonial office to its East Indian possessions, over rubber, the Government of the State of Sao Paulo, Brazil, over coffee; the Government of Chile over nitrates and iodine; the Governments of Germany and France over potash; the Government of Egypt over long staple cotton; the Government of Japan over camphor and at times over silk, and the Government of Yucatan, Mexico, over sisal.

2. All of the controls specifically referred to have certain common characteristics: In that

(a) They are all confined to commodities where the preponderating production lies in the country mentioned. For example, the British Possessions produce 69 per cent of the world's rubber, Brazil 35 per cent of the world's coffee, and Chile 100 per cent of the world's natural nitrates.

(b) They are confined to commodities where the consumption within the country of origin is in small ratio to the consumption in other countries. For instance, 5 per cent of the world's coffee is consumed in Brazil, and 7 per cent of the world's rubber is consumed in the United Kingdom. Only a small per cent of the nitrate or iodine production is consumed in Chile, and so on.

(c) Of rubber, nitrates, iodine, sisal, coffee, raw silk, and camphor, the United States consumed nearly half and in some cases almost 75 per cent of the entire world's production.

(d) These controls are largely exercised through governmental limitation of exports or of output imposed upon each producer or dealer.

(e) They are all stated to be for the purpose of stabilizing the price for the mutual benefit of the producer and consumer.

(f) All of them have maintained or brought about prices highly profitable to their producers and some of them have from time to time advanced prices to exorbitant levels. Seemingly, they either take the course of all monopolies not to remain content with highly profitable prices or they fall into the hands of speculators who force the price to extortionate levels. In many cases the declared "stabilized" price has thus been exceeded greatly. For instance, the price of rubber was advanced to 300 per cent of the originally announced "fair" price.

3. The effect has been to increase the price which the American consumer must pay for several of these essential commodities to an unreasonable and exorbitant figure, and in other ways to restrict the natural flow of adequate supplies. This will be given in detail later when each commodity is specifically handled.

4. This entry of foreign governments into the business and control of trading and the consequent rise in price at once compels consumers of such commodities to deal directly or indirectly with foreign governmental authorities and sooner or later our citizens are forced to demand that their Government assist in these negotiations. This projects the government of both parties into business in large issues. As a result, the complaints of consumers of such controlled commodities throughout the world regarding real or fancied wrongs in prices, supplies, and other trading conditions become matters of governmental policy and concern and consequently stir international ill-will. In fact, through these processes, trading is being taken from the market places and encumbered with the formalities and far-reaching, serious consequences of international relations with an inevitable harmful effect to the world.

5. An immediately effective remedy against price exactions has been demonstrated in the power of the American consumer to decrease demand as recently accomplished in the case of rubber. Emphatic complaints of American users of rubber goods, particularly tires, began to reach the Department of Commerce in the latter part of 1925. Since both official and unofficial representations to the British government had brought no relief, the Secretary of Commerce advised the complaints and the public generally to reduce their demand for rubber by using substitutes and by extracting a greater measure of service from all rubber articles through using them properly and repairing them promptly.

The immediate responses indicated that the consumers realized the power they held. The price of crude rubber began to decline almost immediately from a high of $1.10 in November, and the decline has continued until the best grades are now selling on the New York market at around 50 cents per pound. Attendant circumstances to this remarkable result include a 16 per cent lower consumption of crude rubber in the last quarter of 1925 than in the previous quarter, a 46 per cent advance in the sales of tire repair materials, an appreciable decrease in tire purchases and consequent increase in tire stocks, an 80 per cent increase in the consumption of reclaimed rubber, and substantial increases in the stocks of raw rubber in New York and London.

The Committee believes that American consumers generally will not be slow to realize that what has been done in the case of rubber can be done with other commodities, when their prices are advanced to unreasonable levels by monopolies controlling them.

6. These controls violate economic law and produce disastrous economic results both to producer and consumer. The normal improvement in production by cheapening costs is suspended. The restriction of production prevents growth to meet future world demands which would ordinarily be the response to high prices. To the consumer it means not only unfair charges but substitution of inferior alternatives. To the manufacturer and distributor, it means greatly enhanced hazards, the costs of which are passed on as a further charge to the consumer.

70 Other Vital Commodities Affected

7. There are some seventy other vital commodities which could be controlled by action of foreign governments and which the United States does not produce in sufficient quantities to satisfy its requirements. The substantial increase in the price of these government controlled commodities and the resulting enormous profits of some of these controls in the past is an encouragement for their establishment and extension over many other essential raw materials of international commerce, many of which can be controlled by the action of one or two governments acting in agreement. While it is popularly held that such government controls must stimulate production outside the controlled area and thus defeat their own objects, yet the experience so far plainly indicates that this process is so slow that the world consumer in the meantime would be compelled to pay billions of dollars in exorbitant prices. To illustrate, it takes about eight years before a rubber tree can be brought into full bearing and almost as long in the case of coffee and sisal.

8. The suggestion has been made in certain quarters that these governmental controls were instituted as a sort of reprisal against the protective tariff policy of the United States as embodied in the Fordney-McCumber Act of 1922. Such is not the case. The Brazilian restriction of coffee had its origin in 1906, the Mexican sisal restriction in 1915. The Chilean nitrate control dates back to 1883, and the British control of crude rubber was in process of formulation before the Fordney-McCumber bill became a law.

With the exception of crude rubber, the four leading governmental control commodities come from three Latin Amerian countries, Brazil, Mexico, and Chile. The tariff relationships be-

tweer these countries and the United States are decidedly in their favor. With reference to Great Britain—rubber being subject to governmental control by that government—we find that about 60 per cent of our imports from that country come in subject to duty and that about 10 per cent of our exports to Great Britain are subject to duty. Upon these imports from us in 1924, they collected in tariff duties over $100,000. Their average rate on the dutiable manufactured goods was approximately 29 per cent. It must also be borne in mind that of our total exports that go in, about 65 per cent are foodstuffs or raw materials.

Specific Findings on Crude Rubber

The advance in the price of crude rubber had been so great that the Committee gave especial attention to Government control of rubber. Furthermore, this control fairly indicated the economic and political characteristics of this type of Governmental action. The method of control of crude rubber was formulated in October, 1922, upon the recommendation of a Committee appointed by the British Colonial Secretary and composed chiefly of men interested in rubber plantations. The chairman was Sir James Stevenson, and the recommendations are commonly referred to as the Stevenson Act. The British Colonial Secretary adopted these recommendations and submitted them to the several East Indian Legislative Councils. Laws embodying them became effective on November 1, 1922. The announced intention was to restrict exportation and curtail production by a plan which would maintain a "fair" or "stabilized" price at about 36 cents per pound. The hearings disclosed that such a price would yield an annual return to the rubber growers of 15 to 25 per cent on their invested capital, even on the higher production cost plantations. Furthermore, evidence was submitted showing statements by Sir James Stevenson and Eric Miller (also of the Stevenson committee) that 36 cents was the objective of the plan. There has been no material increase in production costs since the Stevenson Plan went into effect.

There can be no question but what 36 cents brings an ample return to the producer. In brief, the plan limits exports to a percentage of a fixed or arbitrary standard production assigned to each plantation. The standard is based on the general yield of 1919-1920. Under the terms of the plan the permitted exports automatically rise or fall quarterly as the price fluctuates above or below the 3 cent level, providing the British Colonial office authorizes it. The standard production was fixed at a gross total of 335,000 tons. The potential or capacity production is now 385,000 tons. The standard quota per acre has varied and was originally fixed so as not to exceed in any plantation over 400 pounds per acre. A certain percentage of this standard production is allocated to each plantation for exportation in each quarter year, depending upon the average price of rubber during the preceding quarter and the action of the British Colonial office. This percentage has run from 50 per cent to 85 per cent. During the entire period of control up to January 1, 1925, it has averaged about 62 per cent of standard production. This arbitrary or assessed standard production is about 15 to 20 per cent below potential production or what the plantation could actually produce. Therefore, during the control period, the exportation of potential production has been restricted about one-half. If a planter exports more than the allowable percentage he must pay a heavy export tax not only upon the excess over and above his percentage but upon the entire amount exported. This tax is sufficiently substantial as to be practically confiscatory.

There is no question but what there was effective governmental control under the Stevenson plan.

The average price of rubber (plantation ribbed smoke sheets) at New York during the years 1914 to 1918, inclusive, was 67.41 cents per pound. These were war-time prices. The average yearly prices since then have been:

1919	48.70
1920	36.30
1921	16.30
1922	17.50
1923	29 45
1924	26 20
1925	72 80

During the years 1925 and 1926 the average monthly price and percentage of exportation allowed on standard production was as follows:

	Cents	Pct.
January	36.7	50
February	36.	55
March	41.	55
April	43.6	55
May	58.4	65
June	77.3	65
July	103.2	65
August	83.	75
September	88.9	75
October	98.1	75
November	109.5	85
December	98.2	85
1926—		
January	86.	85
February	64.	100

The highest price reached was in July, when one day the price soared to $1.21 per pound.

The manufacturers using crude rubber must anticipate their wants and place their orders some four to six months in advance of its actual arrival here. The effect of these rapidly rising prices upon the manufacturer who has anticipated his wants is retarded somewhat. This is evidenced by the following table showing crude rubber imports:

U. S. Imports of Crude Rubber, July, 1925, to January, 1926

1925	Quantity Pounds	Import value per pound Cents	Total value Dollars	Value at originally announced "Fair" Price (36c) Dollars	Import cost above "Fair" price Dollars
July	72,699,696	46.4	33,701,723	26,171,891	7,529,832
August	74,844,042	53.2	29,834,348	26,943,855	12,890,493
September	59,061,732	62.1	36,686,013	21,262,224	15,423,789
October	77,617,160	64.5	50,027,338	27,942,178	22,085,160
November	84,571,583	66.5	56,271,963	30,445,770	25,826,193
December	90,336,039	72.02	65,055,868	32,520,974	32,534,894
January, 1925	94,985,457	76.35	72,528,141	34,194,765	38,333,386
*February, 1926	73,577,034	79.54	58,526,134	26,487,732	32,038,402

*Estimated on basis imports into New York customs district only.

It is obvious that as the rubber coming in for the next several months will have been purchased during the peak prices of 1925 (in November and December the average was $1.01 per pound), a further rise in import values will be inevitable. The import cost above the "fair price" amounted to over $100,000,000 during the last three months.

Our rubber imports in 1925 were 88,478,385 pounds. Should the prices of November and December have been continued during the year 1926, rubber imports of like volume would have cost $897,363,169. The hearings showed that 18 cents was a fair average cost per pound. The plantation cost of our supply, therefore, was $159,372,565. On the basis of 36 cents, the fair price announced by the growers when the control was inaugurated, the scheme would have cost the American user a total of $318,745,131. But, if the November-December price of $1.01 (average) was maintained, the American rubber purchaser would be paying $897,363,169 or $737,990,604 more than production cost, and $578,618,038 more than its fair price. For every ten cent increase per pound, the cost to the American user of rubber will be raised by $90,000,000 this year.

U. S. Manufacturers File Protest

The American manufacturers, fearful of its effect upon both supply and price, protested the putting into effect of the Stevenson plan. The pivotal price in the scheme was 30 cents per pound. A British Committee came to the United States and made assurances that the maximum price objective was 36 cents per pound and that action would be taken in the event of a runaway market to prevent the price from mounting above this figure. The hearing shows that, during the past year, numerous negotiations were undertaken with British officials by representatives of American users of rubber to secure a relaxation of restrictions in order to maintain the accepted "fair" price. Informal representaions were conducted through official channels. Neither were effective.

Finally, while the hearings were in progress and with current prices of crude rubber double the admitted "fair" figure, the restriction authorities by decision effective February 1, 1926, continued to maintain an effective restriction on export amounting to 15% or 20%. This is the difference between "standard" and "potential" production. Of course, as long as the plan is permitted to exist, the percentages can be applied at any time.

It is obvious that such a plan of restriction of exportation in a country producing seventy per cent of the world's supply would materially affect supply. The following table shows a great loss to the world of 361,126 long tons:

In other words, assuming that 100 per cent of "standard production" could have been realized in Malaya and Ceylon if there were no restrictions, the loss to world supply through British restriction of 361,126, was counteracted to some extent by the increase since 1922 in Dutch and other non-restricted areas of 215,000, making the net loss in world supply during the three restriction years, in long tons, 146,126.

As a result of this loss, London stocks of crude rubber declined as follows:

Long Tons

End of Year 1922	72,299
1923	60,246
1924	29,488
1925	6,129

Notwithstanding this increase in non-British areas, Dr. H. N. Whitford, formerly special investigator of the Department of Commerce, advised the Committee that estimated world consumption in 1931 would be exceeding the then estimated production so as to make a deficit of 165,000 tons in maintaining a normal working supply so essential in maintaining a fair price to the consumer.

The claim that the control was necessary to save the rubber growing industry from destruction is not borne out by the condition of the industry at the time as is evidenced by the fact that not one planting company had failed and the majority were able to cover costs of production at average prices even in the worst years. The *London Daily Telegraph* (a leading British journal) referred to this fact on January 15, 1923, as follows: "Speaking generally, the cost of producing rubber has been so surprisingly reduced that with the present price of over 1s. 3d (about 30 cents) per pound for the commodity, practicaly all the companies are now working at a profit. There can be few industries that have come through the world depression with so iittle loss as the rubber industry. Not a single rubber company has disappeared, and there have been fewer appeals for capital and less numerous reconstructions than in other industries of equal magnitude."

The change in the price policy of the control during the past year and its abandonment of the 36 cent "Fair" figure as its real objective is revealed by the fact that the authorities in charge of export restriction refused to withdraw the plan or to decrease the restrictions when this was urged by the American manufacturers as an imperative measure to prevent runaway prices.

The problem of remedies is indeed most difficult. These governmental controls violate economic principles. They stifle the growth of producing industries and stimulate the use of inferior substitutes among consumers. Furthermore, they violate other than economic principles. Their disturbing influence upon international good-will can not be overlooked and is, in fact, one of the most important objections to them. The friendly intercourse of nations would be better and more soundly based if these controls were wholly abolished.

(Continued on Page 457)

Crude Rubber Restriction

(Figures in tons except where otherwise noted)

Loss of Production in Malaya and Ceylon due to Restriction Act.

Restriction Year	Average Percentage exportable	Standard Production	Permissible exports	Actual Loss to exports	Actual Loss to world
Nov. 1–22-Oct. 31–23	61.25	324,000	198,450	189,459	125,541
Nov. 1–23-Oct. 31–24	58.75	325,000	190,938	202,830	122,170
Nov. 1–25-Oct. 31–25	61.25	336,000	211,800	222,585	113,415
Total—3 years	60.42	985,000	601,188	623,874*	361,126

**Excess of actual exports over permissable exports was due to exports of certain licensed stocks, export allowances to small estates, and a few shipments exported through the payment of maximum rate of duty.*

The marked increase in Dutch and all other production, which began long before restriction was effective in British territories, continued during the three years. Later, the production in non-British areas was unquestionably stimulated by the British restriction; the increased production, using 1922 as a normal, amounted to 215,000 tons at the end of three years.

Utilization of Extraction Steam

Ways in which Various Types of Steam Turbines may be Applied to the Economical Generation of Power

By A. D. Somes
General Electric Company

FEW industrial power plants exist for the production of power only. Heat is required in many industrial processes and the production of heat for process work is a very important purpose of such power plants. Where economical power can be purchased, their only purpose may be the production of heat for process work, which can seldom be purchased economically. Since steam is a medium very commonly used for supplying large quantities of controlled heat, these plants must have equipment for producing and distributing large flows of process steam as well as power.

This paper is a discussion of the ways in which various types of steam turbines may be applied to the econmical production of power and process steam for industrial processes. No attempt is being made to show what will be the most economical type for any particular plant, but rather a review of the types that have been tried and proven practical in actual applications.

The Most Economical Powerplant

The most economical industrial powerplant is the one that produces the needed power and process steam at the lowest cost. In general, the highest efficiency in power production is obtained when all process steam is supplied at the lowest possible pressure, at which that process can be advantageously carried on, and as much energy is absorbed from the process steam in expanding through the stages of a steam turbine from boiler pressure to process pressure, as practical limitations will allow. To the process, the turbine functions as a reducing valve with the advantage that it develops useful power. The characteristics of the turbine have little effect on the overall economy of a plant in which the power available from the process steam is in excess of the power requirements of the plant. When, however, the power demand exceeds that generated by the process steam, the deficiency must be purchased or generated in a condensing turbine with an unavoidable loss of heat to the cooling water. High economy in generating power from process steam is essential to high overall economy.

The various types of steam turbines that have been developed and that are now available for generating power from process steam are given in the table below. An automatic extraction turbine is one so built that any amount of steam from nothing up to the capacity of the high pressure section may be extracted at a given pressure.

Types of Turbines

1. Straight non-condensing for high and low back pressure.
2. Non-condensing single automatic extraction.
3. Straight condensing with from one to three bleeder points for feed heating.
4. Condensing single automatic extraction or mixed pressure.
5. Condensing double automatic extraction or mixed pressure.
6. Low vacuum heater turbine exhausting into a condenser heater with or without single or double automatic extraction.
7. Extraction turbine, extracting through reducing valves or into dead end heating systems.

These units can be applied successfully in such industries as: 1. Paper. 2. Textiles. 3. Metallurgical. 4. Sugar. 5. Rubber. 6. Lumber. 7. Chemical Products.

The non-condensing turbine can be applied to best advantage where large flows of process steam are required without large fluctuations in flow. Under these conditions high efficiencies may be obtained. Equipped with a back pressure regulator it must be operated in parallel with existing equipment. This combination is equivalent to condensing automatic extraction unit. Without back pressure control it must operate in parallel with reducing valves from the boiler, or in some cases with a condensing automatic extraction-mixed pressure turbine.

The non-condensing automatic extraction turbine is equivalent to two non-condensing units operating in parallel at two different back pressures, with the advantage of a mechanical speed connection between the two, instead of an electrical connection. It has the efficiency and operating characteristics of the straight non-condensing turbine.

The condensing automatic extraction turbine is equivalent to a non-condensing turbine operating in parallel with a condensing turbine with a mechanical speed connection between the two. It does not have the high economy features of either the straight non-condensing or condensing machine. It is, however, capable of handling wide fluctuations in load and process steam flow with good economy. Being a single unit and self contained, it has lower losses and requires less floor space.

The condensing double automatic extraction turbine is equivalent to two non-condensing turbines with different back pressures, or a non-condensing extraction turbine operating in parallel with a straight condensing unit. It has the efficiency and operating characteristics of the condensing single automatic extraction machine.

The low vacuum heater turbine exhausting into a condenser heater can be applied to good advantage in plants where large quantities of cold water must be heated continuously. The water can be heated in one, two or three stages of heating, with all of the advantages of the regenerative feed heating cycle that is now so generally used with large condensing units.

Extraction Through Reducing Valves

The extraction turbine extracting steam through reducing valves may prove economical where very small amounts of process steam are required. The amount that can be extracted at any given pressure is limited by the decreasing pressure in the turbine stage with decreasing flow to condenser. With large extractions the throttling of the steam from the stage pressure to the process pressure at some loads represents a large loss in available power.

Now, these types of machines may be used in various combinations to meet the most complicated demands for process steam. As an example of how these combinations have been worked out for particular plants, the following description of an application to a metallurgical process is typical.

In this case the power requirements remain at two definite values, without any great variation, the first at 5500 KW and the second at 9800 KW. High pressure steam is generated at 365 No. G and 200° Superheat. There is available from low pressure waste heat boilers saturated steam at 165 No. G pressure. The quantity of steam generated from these waste heat boilers varies over a wide range.

There is a large variable demand for process steam at 6 No. Abs., 2 No. G., and 165 No. G., and a small demand at 30 No. G. All of the steam used for process work is contaminated and lost, which means that the bulk of the boiler feed water is taken into the plant at a temperature between 40 and 60° F.

To meet these conditions, a combination of three turbines driving alternating current generators proved the most economical. The first is a 3000 KW low vacuum unit exhausting to the 6 No. Abs. process, with automatic extraction of process steam at 2 No. G. Steam will be extracted from this unit for extreme or emergency conditions only. The second and third, which are identical, are 5000 KW condensing machines operating at a vacuum of 28½" of mercury.

(*Continued on Page* 437)

Read before the Affiliated Technical Societies of Boston on December 11, 1925.

Soot Removers for Factory Boilers

Loss Through Soot Increases in Proportion to its Thickness and the Length of Time it is Allowed to Remain on Boiler Surfaces

By W. F. Schaphorst, M. E.

THE PRINCIPAL losses in rubber factory steam power plants of today occur in the boiler room. It is easier to save money in the boiler room than in the engine room. Volumes are written about engines and turbines and thousands of dollars in premiums have been paid for engines that will develop a given horse power and save perhaps 5 per cent of the steam ordinarily consumed. Yet out in the boiler room, and because of sheer neglect, it is costing much more than it should to generate that same steam. Attendants in the boiler room should always be on guard to prevent heat losses up the chimney—as that is where most of the lost heat goes.

The selection and training of men for the boiler room is one of the very important essentials. The power plant that has the most skillful firemen or the most highly trained boiler attendants, will get most out of the coal. In the mind of the writer it is more important to employ skillful boiler operators than skillful engine operators because the fireman is constantly at it, whereas the engineer adjusts his engines only occasionally. The engine is practically automatic. It is set by the manufacturer to do its best from the very start. As for the fireman, he must always be on guard and give the best that is in him.

In the case of hand-fired boilers, still commonly existing in rubber factories, there is a variable difference of at least 10 per cent between ordinary firemen. That is, one fireman may get along nicely on $90 worth of fuel per day whereas the other may shovel $100 worth per day in generating the same amount of steam. The rubber factory pays the bill and nothing is said or thought about it.

The writer is informed that one concern requires each fireman to attend a six-weeks' theoretical course in boiler room practice, after which he is examined, and if not approved he cannot be retained as a fireman.

Among his other duties the boiler attendant must see to it that boiler heating surfaces are always kept clean inside and outside. Cleanliness is essential if high efficiency and capacity are wanted. Boilers must be taken out of service regularly to be repaired and cleaned. One of the principal offenders that will cause huge losses unless kept off the heating surfaces constantly is soot.

Soot should by all means be kept off of boiler surfaces. It is about the best "heat insulator" known. Asbestos is generally regarded as a good insulator and is generally so used, but soot is superior to asbestos in that respect. Kent, in his *Mechanical Engineer's Pocket Book* states that soot has five times greater heat-stopping properties than asbestos. Soot would do very well for packing around steam pipes to stop heat radiation and to prevent condensation. It is almost as good as loose wool and geese feathers, the latter two substances being about the most effective heat stoppers known.

The Loss Through Soot

The following table, which has frequently appeared in engineering literature, gives the approximate loss in fuel due to various thicknesses of soot;

SOOT	LOSS PER CENT
1/32 inch thick	9.5
1/16 " "	26.2
1/8 " "	45.2
3/16 " "	69.0

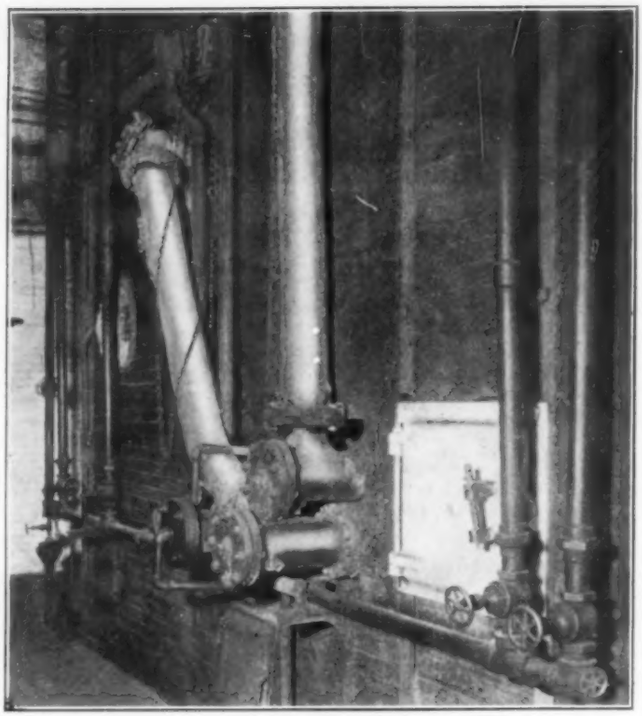
Osborn Monnett, a consulting engineer, says this: "A striking illustration of the effect of soot formation is shown in the case of a boiler used for heating purposes in which the heating surfaces did not get a thorough cleaning in five years.

The first season the coal bill was	$500.00
The second season	$600.00
The third season	$700.00
The fourth season	$800.00
The fifth season	$900.00

The boiler was then thoroughly cleaned and the coal bill dropped to normal.

The principal reason why soot is so uneconomical is that it gets between the fire or hot gases and the boiler shell or flue. That is the very position in which there should be no insulating medium at all because there is where an insulator can create the greatest fuel loss. It has been shown in carefully conducted tests that an insulator between water and metal is not so effective as between gas and metal. Hence, a given thickness of soot on the outside causes far greater loss than an equal thickness of scale inside a boiler. Soot shuts off heat "at the very source". It doesn't permit the heat to even touch the metal of the boiler.

Soot is not only a creator of inefficiency, but at the same time a reducer of boiler capacity. By keeping soot off boiler and flue surfaces a boiler can be "forced" with better effect than where soot is permitted to accumulate. This can easily be proved by taking temperature readings of the flue gases. Tests have proved time and again that where soot is consistently cleaned off in a thorough manner the average flue gas temperature is materially reduced. Boiler efficiency can be estimated with surprising accuracy by merely taking the flue gas temperature.



Showing a Soot Cleaner Installation in the Plant of the Miller Rubber Co., Akron.

This installation, according to authentic tests, verified by the chief engineer of the rubber company, results in a gross saving of $7,020 per year by reducing fuel consumption 5 per cent.

There are five 650 h.p. Stirling boilers. About 70% of the steam is used for process work in the factory and the remaining 30% for pumps, etc. The boilers are operated at from 100% to 120% of rating for 24 hours per day, six days per week. They make it a regular practice to blow the soot four times a day. Each time the flue gas temperature drops from 625 to 550 degrees.

The soot cleaners cost $560 per boiler, installed. Total cost for the five boilers, $2800. They have now been in operation for 4 years, and it is expected that they will be good for three more years. The annual depreciation, therefore, is only $400 per year and the average interest at 6% is $96 per year. Repairs and maintenance have not averaged over $40 per year.

Deducting all operating costs the net annual saving is $6201.12 which is equivalent to 220% on the investment. In other words, the soot cleaners pay for themselves in six months.

Joseph Harrington, formerly Administrative Engineer for the State of Illinois, wrote this in *Power Plant Engineering*:

"Soot begins to form the moment after the previous layer has been removed, and in six hours the deposit in any boiler is sufficient to affect visibly the flue-gas temperature. Every 25° in flue-gas temperature represents one per cent of the fuel fired. In eight hours, even with fairly clean combustion, the deposit of soot on the tubes will cause a rise of 50° and in twenty-four hours will cause a rise of 100°.

"Try the effect of installing a recording flue-gas temperature thermometer in your up-take, and see how interesting it is to watch the effect of cleaning.

"The minimum observed saving by the use of effective soot cleaning is 3%. Assuming a boiler of 500 h.p. this saving figures about as follows:

2,000 pounds fuel per hour	$ 6.00
3% saving	$ 0.18
Per day of 10 hours	$ 1.80
Per month of 30 days	$ 54.00
Approximate cost of cleaner or	$600.00

100% return in about 11 months.

"Soot is about as good an insulator as we could well find, and it is absolutely vital that it be kept off of the tubes. The temperature of the flue gases therefore becomes a direct index of the condition of the boiler-heating surface."

Heat lost up the chimney due to high temperature of flue gases can be determined from the formula 0.24 G (T-t)= B.t.u's. lost per lb. of dry fuel fired where G=weight of flue gases in pounds per lb. of dry coal, which should average about 19 lb. T=temperature of chimney gases. t= temperature of air in boiler room.

Not many engineers realize or give thought to the fact that there is a "relationship" between soot and scale. Where one of them is to be found the other is lacking. For example, engineers sometimes wonder why it is that thicker scale is to be found on boiler tubes close to the outside wall than close to the inside wall. The reason, which is easily explained, emphasizes the importance of thorough mechanical boiler cleaning in preference to cleaning by hand.

Hand Lance Ineffective

It is plain to anyone that the tube that absorbs the most heat will evaporate the most water and therefore will leave the most scale to cling to and impair the heat transmitting qualities of the tube. Hence, the thicker scale on one side of the tube bank than on the other. On examining these boilers it is invariably found that the soot is blown off the tubes by the hand method through the dusting doors at the sides of the setting. A hand lance thrust through the dusting doors does not clean the "far side" of the boiler. Instead of cleaning the tubes on the far side it blows the soot from the "near side" over onto the tubes farther away and makes matters worse there than before.

Another explanation for the difference in thickness of scale is that much depends upon the way in which the fireman shovels coal into the furnace. If he is left-handed, he may throw more coal onto one side than the other and thus keep one side of the boiler hotter. But the fact remains that the tubes that evaporate the most water or absorb the most heat are the ones that will have the thickest scale.

By using mechanical cleaners rather than the hand lance an average saving of about 5 per cent of the annual fuel bill is effected. One reason for this is that with mechanical cleaners it is possible to remove the soot three or four times every day. This is a valuable point. For example, it is reported by one of the largest manufacturers of soot cleaners in the United States that:

"Figures from one of the largest electric light plants in the country regarding a new and perfectly clean 600 h.p. horizontal water tube boiler operated at 150% of rating show that the uptake temperatures for the first day were an average of 550 deg. F., while on the fifth day the average uptake temperature had risen to 650 deg. F.

"The increase of 100 deg. in flue gas temperature in four days represents an increase in coal consumption of approximately 5%. These boilers were not cleaned, and the figures given are a good indication of the rapidity with which soot insulates the tube surface and cuts down economy as the time a boiler has been in service increases.

"Tests made by A. W. Conklin, Combustion Engineer, showed the following temperatures:

	NEAR BOTTOM 1st Pass	TOP 1st Pass	BOTTOM 2nd Pass	TOP 3rd Pass
Hand blown	1697	954	727	618
Cleaned by Mehanical Cleaner	1691	934	649	527

The above table not only proves the importance of keeping soot cleaned off the tubes, but it also shows the advantage of mechanical cleaning as compared with hand cleaning.

In too many rubber factories the old hand lance method of cleaning is still used. The hand method is inferior in many ways and should not be permitted. Take, for instance, the matter of velocity of steam. It is practically impossible for the hand lance to give a sufficiently high steam velocity because of the great internal friction of the lance and the connecting steam hose. High velocity is essential for thorough cleaning.

The steam turbine type nozzles in mechanical cleaners should always be specified in preference to the hand lance, because accurately designed and made steam nozzles give the maximum obtainable velocity. This can be easily proven by applying the well known Babcock steam flow formula which gives the velocity of steam flowing through a pipe.

Theoretical Steam Velocities

Using the Babcock formula and assuming the drop in pressure through the cleaning hose to be 150 lb, per sq. in. and the length of the hose to be 150 ft., we get the following theoretical steam velocities at the end of ½", ¾" and 1" pipe respectively:

½"	1690 ft.	per second.
¾"	2160 ft.	per second.
1"	2725 ft.	per second.

In actual practice, however, these velocities from the end of a pipe or hose are not attainable. On the other hand look into almost any text-book on steam turbines and it will be found that with 150 lb. boiler pressure the average steam velocity is about 2700 ft. per sec. The theoretical velocity is 2950 ft. per sec.

As the cleaning power of the steam jet does not vary directly as the velocity, but varies rather as the square of the velocity, it is plain that if the velocity of the steam turbine jet is only twice as great as the velocity from a hand lance the steam turbine jet gives us four times the cleaning power.

Nobody questions the need of high velocity for successful soot cleaning. In actual practice, we may have three or four times the steam velocity with the steam turbine jet as compared with the hand lance jet giving a cleaning power 9 to 16 times as great as the hand lance. This explains why, even if the workman could reach all of the tubes with the hand lance, much more time is required to do a job.

In practise it has been found that high velocity steam jets will often clean tubes without even touching them because of their "injector action". They set up high velocity air or furnace gas currents. These currents of gas scrub the boiler tubes and clean off the soot.

Nozzles Should Not be Submerged

When selecting a soot cleaner it should be remembered that nozzles should not be submerged; that is, they must not be screwed so far into the pipe as to interfere with steam flow. They should beflush, or nearly so, with the inner surface of the pipe. To get the best results, the aggregate area of the nozzle orifices should be less than half of the free cross sectional area of the pipe.

To make it possible for hand blowing while a boiler is in operation it is first necessary to equip the setting with a large number of blow holes to bring as much of the heating surface as possible within range of the hand lance. Hence, the entire side of the boiler setting is often literally honeycombed with blow doors. After installing a mechanical soot cleaner the number of doors can be reduced to only those that will be necessary for inspection purposes. Furthermore these doors on account of their infrequent use can be made practically air tight.

Tests have shown that on account of this surplus air inleakage there is an average drop of four per cent carbon dioxide in the flue gases an item that is not to be ignored. For example, a consulting engineer, making investigations at a small plant, found after repeated tests that the CO_2 was down to four per cent. By changes in the dampers this was raised to six. The setting was then carefully examined for cracks and tested by holding a lighted candle at the mouth of a box placed upon the brick work. Numerous cracks, so small as to be scarcely noticeable, were found. The pull on the flame of the candle was particularly noticeable in the brick work around the hand lance doors of the boiler. After closing the leaks with cement the CO_2 was raised to 9½ per cent.

It is common practice among engineers to assume a saving of five per cent of the fuel by installing a soot cleaner in preference to the old hand lance, under conditions that are otherwise good. If, however, there is considerable leakage through the boiler setting, and the CO_2 is low, if all openings are bricked up or permanently closed after installations of the cleaner, the annual saving may be seven per cent of the fuel. Where conditions are unusually bad the fuel saving often runs up to 10 per cent. These savings result from more thorough cleaning, more frequent cleaning, and the reduction of air inleakage by the sealing of all hand lance doors.

The question is often asked, "How often should soot be cleaned off boilers in a day of 24 hours?" To decide offhand, before installing a soot cleaning system, that the tubes should be cleaned once, twice, three or four times a day, is the wrong method. It can hardly be determined in advance because there is so much difference in fuels, in furnaces, and in boilers.

It certainly is obvious that with good, clean, anthracite coal, which soots boiler surfaces and tubes very little, it is not necessary to clean the surfaces as often as with bituminous coal or with dirty lignite which soots more freely. If gas is used, and if combustion is so complete that no soot is formed at all, it is plain that the tubes do not have to be cleaned at all.

The object of the soot cleaner is to keep the boiler surfaces clean. If the surfaces are clean anyway, no cleaner is needed. The time between cleanings would then be infinite, according to some mathematicians.

When Cleaning is Necessary

How then can we tell when a boiler needs cleaning, either internally, externally, or both? By keeping a weather eye on the chimney gas temperature. The lower the temperature, the better. High temperatures should not be permitted. Just as soon as a certain high temperature is reached—that's the time when the boiler should be cleaned. It does not pay to maintain a minimum temperature at all times because to maintain that minimum would require cleaning all the time, and to be cleaning all the time would require steam all the time and the loss of that steam would probably more than amount to the saving.

One engineer, for example, made it a practice to clean his tubes as soon as the chimney temperature reached 550 deg. He found that by so doing he cleaned the tubes at an average of three times in 24 hours, so he decided to make it a rule to clean the boilers every eight hours regardless of chimney temperature. Another engineer, under different conditions, found that it was best to clean his boilers at a temperature of 575 deg. He very likely had a dirtier coal because the temperature rose quickly and he found that on an average he had to clean his tubes four times per day of 24 hours.

The writer therefore suggests that the maximum temperature and number of cleanings be determined when the boiler is free from scale. Then, when it is found difficult to keep the temperature down to the established or predetermined minimum the engineer will know that it is not due to soot but is due to scale.

Mechanical Cleaner is Quick

The best a man can do with the old fashion hand lance is to blow an average boiler in one hour and even then the boiler is not thoroughly cleaned. With a mechanical cleaner installed the same man can clean the same boiler in seven minutes doing the work more easily and, most important of all, at the end of the seven minutes the boiler is *cleaned*.

In addition, there is the matter of safety. Many accidents have happened through the use of the hand lance. The operator often finds it necessary to stand on a ladder which may slip and fall. The operator may stand in a cramped or dangerous position. The hose used is filled with live steam under high pressure and there is a possibility that the hose will burst and burn the operator. The work is hot, dirty and disagreeable. The mechanical cleaner eliminates all of these dangers and difficulties.

Improvements in mechanical soot cleaners are constantly being made. It has been said that there is a demand for a cleaner that will automatically clean the tubes, say, every eight hours without human assistance, but such a cleaner would probably be too expensive to be practical.

For example, one manufacturer has evolved a rather expensive and complicated swivel head incorporating the steam valve within the head in such a way that pulling the chain both rotates the cleaning elements and manipulates the steam valve. A gear ratio of 10 to 1 is used. It is so arranged that a lever operated on a cam connected to the gear wheel operates the valve. This means that if the gear wheel has to be rotated say 30° in order to operate the valve, the sheave wheel would have to be rotated ten times as far or 300° which is almost a revolution. The valve is closed by the pressure of the steam and also by the action of a spring. There is no cushioning of the valve and the jar attendant on this almost instantaneous valve closure will in time doubtless damage the valve seat and valve. If these valves start to leak for any reason they are very difficult to grind in and a certain part of the pipe work has to be torn out in order to get at the valve. The writer is informed that these heads were installed in a large power plant and that they were found unsatisfactory and removed and replaced by the old swivel head.

Besides, the older system has an advantage in the saving of insulating materials. As generally made, high pressure steam is carried up to a certain main steam valve and the steam line is insulated up to that valve. Where high steam pressure is constantly carried up to each swivel head it is necessary to insulate all piping up to the heads, thus increasing the first cost.

Very often, these days, engineering problems are figured on a capitalization value basis. For example, one engineer figured the "capitalization value of a steam leak" and he found it to run up into thousands of dollars for the smallest leak. That is, the cost of almost any leak represents interest on a comparatively large capital sum.

In the same way, it is well to compute the capitalization value of engineering products used in rubber factory plants—even soot cleaners. Invariably it is found that fuel saving devices are very good paying investments.

For example, in one case it was computed that if the annual coal consumption in a given furnace was 10,000 tons of coal per year, boiler efficiency before installation of the cleaner being 70 percent, temperature decrease (T-t) 50 degrees F; number of boilers one, and the cost of the coal $5 per ton, the rubber factory could afford to pay $4,460 for a cleaner. As a matter of fact, a cleaner seldom costs more than $800.

Six Points to Consider

In these days of soot cleaners of many makes a rubber factory official should have no difficulty in selecting a type that fits his conditions best. They are made to fit almost any make of boiler. There are six important points to be considered when selecting a soot cleaner: (1) cleaning efficiency; (2) length of life; (3) maintenance cost; (4) accessibility for inspection and repairs; (5) ease of installation without interference with present boiler equipment and (6) first cost.

If the boiler is a B. & W. type it will be found that there are two diagonal paths between the tubes through which cleaning jets of steam can pass without impinging on the boiler tubes. Select a cleaner that will blow down through these diagonals. The soot is then blown loose and deposited outside of the tube bank into an open chamber, where it can settle without redepositing on the heating surface. It is important to differentiate between the ordinary mechanical blower, which blows at the soot to loosen part of it from part of the heating surface, and the cleaner, which, after loosening the soot, actually removes it from the tube bank, thereby really cleaning the tubes. This latter is more liable of accomplishment by the "diagonal path" type of cleaner.

Next, it is very important that the cleaner be able to stand up under the difficult conditions of service inside the boiler setting. The cleaner elements must be placed in protected positions—not in the intense furnace heat. Unless protected the elements (which are not filled with water like the boiler tubes) will soon burn or melt. As a further protection one manufacturer places special cast iron sectional sheathing on

the elements in the hot test passes. Exhaustive tests by this manufacturer have shown that neither wrought iron nor steel possess the strength essential to resist the high temperatures encountered in boiler operation, while cast iron does.

Long life of any soot cleaner equipment may, or may not, mean low maintenance cost. It is possible, by frequently replacing parts, to keep it operating indefinitely and to claim that the equipment, therefore, is long-lived. The purchaser should carefully investigate the maintenance cost before buying.

If all the elements are located either above or below the tube bank, inspection is made easy and all parts are quickly accessible. Both of these points are important to consider from the standpoint of keeping the equipment in first-class condition. The cleaner can, and should be inspected by the operating force every time the boiler is off the line for regular general inspection.

The original installation should be made without extensive or expensive alterations to the boiler setting. When soot cleaner nozzles are set in the side wall, in the baffle, or in the front brick work of the boiler setting, it is sometimes necessary to practically reset the boiler in order to install the blower.

The only sure measure of value of any product is the result it accomplishes in relation to original cost, and not first cost alone. Many products, cheap in first cost, are expensive at any price; while it is equally true that many so-called high-priced products, by virtue of their superior abilities to produce the desired results, are the least costly in the long run. Purchasers of soot cleaners sometimes conclude that the ordinary "soot blower", offered at a low price has the desirable feature of "low first cost". This assumption, however, is a fallacy, for mere "soot blowers" do not always possess the vital requirements for thorough cleaning. For this reason it is impossible to compare the first cost of a high grade soot cleaner with anything else offered for the purpose of keeping soot and ash deposits from the heating surfaces.

Utilization of Extraction Steam

(Continued from Page 433)

Each turbine is designed for automatic extraction or mixed pressure operation at 165 No. G and automatic extraction at 2 No. G., with provision for bleeding steam at 30 No. G from an intermediate stage through a reducing valve or into a dead end heating system. The mixed pressure feature operates to use up the excess low pressure steam during the periods when the process requirements at 165 No. G are less than the output of the waste heat boilers.

In addition to the process steam, the boiler feed water, which includes approximately 100,000 No./hr. of cold water, is heated in three stages by extraction from the turbines along the lines of the so-called regenerative feed heating cycle.

At the 5500 KW load point, the 3000 KW unit and one 5000 KW unit are operated. At the 9800 KW load point all three units are operated.

At the 5500 KW load point a kilowatt hour is produced with a heat consumption chargeable to power of 4430 B.t.u. At this condition the flow to condenser is little more than enough to cool the low pressure end of the turbine. At the 9800 KW load point a kilowatt hour is produced with a heat consumption chargeable to power of 8750 B.t.u. The increased heat consumption at this load is caused by the greater flow to condenser due to the fact that the process demands do not increase with the increased load.

Heat must be produced to carry out the processes and the necessary power is obtained with a low additional heat consumption per unit of output.

(R. G. Standerick's paper on the "Utilization of Extraction Steam", which deals with the methods of regulating flow of steam through turbines, with particular reference to extraction and mixed pressure applications, will be published in our next issue.—THE EDITOR.)

House Committee Report on Rubber

(Continued from Page 431)

We commend the efforts our Government has made to induce an abolishment of these controls and urge renewed watchfulness and continued endeavor to accomplish that result.

If we consider the problem wholly from the point of view of domestic correctives, we have four alternative remedies.

The first is to secure immediate relief from high prices by conservation and substitution campaigns among our consumers, such as the very successful rubber conservation campaign for which the Department of Commerce is responsible.

The second is by governmental and private action to create an independent source of supply which can not be brought under foreign control.

The third is for American citizens to refuse to furnish credit to these controls.

The fourth is direct retaliation in some form.

With these alternatives in mind, the Committee reaches the following conclusions:

Conclusions And Recommendations

1. It has been proved in the case of rubber that a conservation campaign can be conducted by the American people as a protest against high artificially controlled prices and with a fair degree of success. This experience is of considerable significance in showing the ability of the consumer to take matters into his own hands, and secure some measure of protection through exercising positive control over demand. As a result of this demonstration, the Committee believes that a considerable measure of protection can be attained in this way for the American consumer. While the Committee believes that it is desirable to give time for consideration by foreign governments of the undesirability of such combination before resorting to legislation in the United States, yet, if the American consumer should be further subjected to unfair prices, the Committee believes that further and more extended efforts as to carrying on conservation campaigns should be systematically organized and carried. If necessary, the Government should assist.

2. The ultimate solution of the problem of foreign control of commodities essential to American industries and progress will unquestionably be for the United States to become more self-sufficient in their supply through endeavoring to produce these commodities for itself, either under its own flag or in suitable foreign countries which would agree not to interrupt free trading in them at any time. In effecting such agreements, the governmental facilities of the United States should freely assist.

Availability of Philippines

3. For growing rubber under the American flag, the southern Philippines appear most suitable. Physical conditions are known to be excellent. Under the existing Philippine land laws, the holdings of individuals or corporations are limited to about 2,500 acres. This condition could be altered by the Philippine legislature or by the Congress of the United States if it chose to change the basic law under which the islands are now administered. Furthermore, certain experiments have recently been undertaken to develop the production of rubber from the guayule shrub in the Southwestern States. For several years rubber has been produced from this wild shrub in Mexico. In 1925, our imports of this rubber amounted to 8,469,123 pounds. The Committee believes that experiments contain such possibilities as to warrant serious attention and consideration.

Outside American territory, good possibilities for successful rubber culture appear to exist in the Isthmus of Darien in the Republic of Panama, Brazil, Colombia, and other parts of tropical America. Plantations in such locations would be especialy valuable to the United States from the standpoint of national defense, since rubber from them would more likely be uninterruptedly available in the event of war. Substantial progress is also being made in Liberia by American interests. As a step in the direction of assuring such supplies, the committee specifically recommends that the Department of Agriculture be authorized and enabled, in cooperation with their respective governments, to establish and maintain demonstration rubber plantations in South and Central American countries. Certain suggestions were made in this connection to the committee by Dr. H. N. Whitford, formerly crude rubber expert for the Department of Commerce.

4. Efforts of the Bureau of Standards and others to develop a synthetic rubber and other synthetic products should be further encouraged.

(Recommendations 5, 6 and 7 refer to potash, nitrates and sisal exclusively.—*Editor*)

8. Since these governmental controls are contrary to the interests of the American consumer, the Committee keeps the position that American citizens should refuse to aid or assist them by extending credit to them. This is obvious. Furthermore, self interest should prompt this action on the part of American financial interests; for the granting of loans of this character would create a just resentment against them on the part of the American public. In some instances, requests for loans of this character have been refused. In at least one instance, the loan has been granted. Requests for loans should be discouraged and if made should be refused.

9. Retaliation by the United States against these governmental controls was not given serious attention by the Committee and will not be except as a last resort.

Subsidy Proposal Not Favored

10. The Committee has received suggestions that Congress give direct aid to development by American citizens of alternate supplies of these raw materials but takes the position that aid or subsidy of this sort is inadvisable, partly because it is an intrusion of government into production, against the principle of which this investigation is directed.

11. Suggestions made to the Committee that it secure passage of a law permitting combination of American purchasers to buy cooperatively are not approved at this time. Such action is not urgently demanded by the trades concerned.

12. The Committee for reasons heretofore appearing has not at this time suggested remedial legislation since it believes that a frank discussion of these questions and the development of a better understanding of the consequences of the intrusion of governmental price controls in international trade may secure an abandonment of the practices. If, however, it develops that the American public cannot be protected against a repetition of its experiences in the past by resort to methods mentioned above the Committee will have no hesitation in reopening the question. Accordingly, the Committee makes this preliminary report with the purpose of making further report to the House, later, if the occasion should require it.

EDITOR'S REVIEW DESK

Books **Trade Catalogs** **Articles**

DIELECTRIC CONSTANT, POWER FACTOR, AND RESISTIVITY OF RUBBER AND GUTTA-PERCHA. By H. L. Curtis and A. T. McPherson. Technologic Paper No. 299. Department of Commerce, Bureau of Standards.

This investigation was undertaken to determine the suitability of rubber as an insulating material for submarine cables. It consisted in measuring the dielectric constant, power factor and resistivity of specially prepared samples. Crude rubber has a lower dielectric constant than either gutta-percha or vulcanized rubber, the value of the latter depending on the conditions of vulcanization. Vulcanization by sulphur alone produces a higher dielectric constant than vulcanization with the aid of an accelerator. The addition of a filler generally increases the dielectric constant. Dried samples of both rubber and gutta-percha have a lower dielectric constant than those which contain absorbed water. Vulcanized rubber may have a lower dielectric constant than gutta-percha.

The power factor of crude rubber is about the same as that of gutta, the hydrocarbon of gutta-percha. Crude rubber, vulcanized rubber and gutta-percha all have about the same resistivity. The incorporation of some substances in vulcanized rubber increases the resistivity. This is true of litharge in certain proportions. However, other substances produce a decrease in resistivity, this being especially true of carbon.

* * *

EFFECT OF ACCELERATORS ON CURE AND QUALITY OF VARIOUS RUBBERS. By R. P. Dinsmore and A. O. Zimmerman, of the Goodyear Tire & Rubber Co. Presented before the Division of Rubber Chemistry at the 69th Meeting of the American Chemical Society, Baltimore. Published in *Industrial & Engineering Chemistry* for February.

Experiments conducted to establish the correlation of the figures for cure and quality between different accelerators in the same type of mixing, and with a variety of rubbers, showed that the variation was not great and that where a variation exists there is no apparent correlation between the behavior of different accelerators or with any of these and a straight sulfur mix. Variation due to cure is greater than that due to quality. Certain accelerators show a higher variation.

Mere compounding investigation is insufficient to give the causes for rubber variation. Isolation of material influencing cure and quality is necessary and a determination of their effects upon each other and upon commonly used accelerators. Numerous mixings to evalulate rubber for use with miscellaneous accelerators is necessary and the adjustment of cure is the most important problem. Variation in quality and tear resistance are of great importance. Until such time as the causes of variation are understood and methods found for eliminating or counteracting them, it will be necessary to specify the mixing used in order to specify the rubber quality.

* * *

RUBBER INDUSTRY AND RUBBER SUPPLIES. *Commerce Monthly*, January.

Forty thousand tons annually was the total rubber consumption of the United States fifteen years ago. Today ten times that amount is required. Many factors have entered into this tremendous increase. The growing use of motor cars and the utilization of motor trucks in industry and buses in transportation, the change in passenger cars to heavier and larger models, the growing demand for balloon tires, the expansion of the electrical industry and the gradual adaptation of rubber to manufacture in industries, heretofore non-users, account for the phenomenal increase.

The curtailment that followed world-wide business depression of 1920-1921 led to the Stevenson Restriction Plan, upon which has been laid the woes of the entire rubber industry during the last two years. Whatever may be the final judgment on this measure, the publishers of this article point out that the main question now is the relation between rubber requirements and supplies over future years. Plantings have been small for several years past and new plantings will not figure in production for five years at least. The development of new producing areas is the only solution and the far-sighted American with his interest in new sources of supply is already preparing for the day when British monopoly of one of the world's greatest needs will be greatly lessened.

* * *

RATE OF COMBINATION OF SULFUR WITH RUBBER IN HARD RUBBER. By W. E. Glancy, D. D. Wright and K. H. Oon, Hood Rubber Co., Watertown. Presented before the Division of Rubber Chemistry at the 69th Meeting of the American Chemical Society, Baltimore. Published in *Industrial & Engineering Chemistry* for January.

The physical properties of a rubber-sulfur mixture undergo rapid changes when the coefficient of vulcanization reaches approximately 23.5 or when each $C_{10}H_{16}$ group has received one atom of sulfur to form polyprene monosulfide. The rate of combination of sulfur with rubber is hastened by an active hard accelerator and the strength of the final product is not appreciably increased. An influence peculiar to itself is possessed by each accelerator and may be considered a regulator of the rate of combination of sulfur with rubber.

It has been found, in the formation of the hard rubber compound, that the volume of the end product is less than the volume of the components.

* * *

THE INVESTIGATION OF BUSINESS PROBLEMS: TECHNIQUE AND PROCEDURE. By J. Eigelberner, Consulting Industrial Engineer. 335 pp. 5½″ x 8⅛″. Flexible Binding. A. W. Shaw Co., Chicago. $5.00.

The ability to put ones thoughts in a rational series, to survey a problem in all its bearings, to approach it objectively, to weigh all the evidence and form a logical conclusion—the ability to do all these things is not inborn but acquired.

The nature of thinking, how to develop the ability to think in a straight line, is described in this new book. After outlining briefly the elements of the investigational process, the author brings out the value of preliminary analysis of the problem. He shows how to analyze the problem, describes in detail the methods of gathering *facts* by surveys, sampling, interviews, questionaires, research, personal observation, and experiment; and points out the sources of authentic data.

Next he explains how to organize and classify the information for intelligent use, how to test, interpret, and edit the data secured, and the best ways to tabulate and present them. But the reader will find the two following chapters most useful. They show how to draw correct conclusions from the facts assembled and how to work out for the problem a practical and effective solution.

* * *

UNITED STATES GOVERNMENT MASTER SPECIFICATIONS: WATER-SUCTION HOSE; WATER AND WASH DECK HOSE; TENDER HOSE; DIVERS' HOSE; RUBBER BANDS; GAS HOSE. Department of Commerce, Bureau of Standards.

Grades of material, material and workmanship, general requirements and various other points usually stressed in these specification pamphlets, are given in these. In use throughout the departments and independent establishments of the Government, they represent the official requirements for equipment of this character.

* * *

THE "MOULDY ROT" DISEASE OF HEVEA BRASILIENSIS IN MALAYA. Bulletin No. 37. By F. W. South, and A. Sharples. Issued by the Department of Agriculture, Straits Settlements and Federated Malay States.

The first bark disease to attack trees in Malaya, "Mouldy Rot" has spread to a damaging extent through the Peninsula since 1916. Due to the ease with which it can be disseminated, its appearance in adjacent districts is expected by rubber growers, and the pamphlet issued by the Department is undertaken to familiarize planters with all phases of this menace and to provide methods of cure and prevention.

In spite of its prevalence, the disease is easily arrested, and the compilers of this pamphlet give exhaustive data on their study and conclusions. Plates are also included showing the various stages of the disease.

The Market Place

WHERE TO OBTAIN
Machinery, fabrics, chemicals, compounding ingredients, crude and reclaimed rubber, consulting chemical
1.

ACCELERATORS—X L O and Diphenyl Guanidine.
Dovan Chemical Corp.
30 Church St. New York

ACCELERATORS — Two new accelerators: Vulcone and Di-ortho-tolylguanidine.
E. I. du Pont de Nemours & Co., Inc.
Dyestuffs Dept. Sales Div.
Wilmington, Del.

ACCELERATORS
Grasselerator 102
Grasselerator 552
Grasselerator 808
Grasselli Chemical Co.
Rubber Service Dept.
347 Madison Ave., New York

ACCELERATORS— Every lot is tested before shipment and a written guarantee of quality furnished.
Roessler & Hasslacher Chem. Co.
709 Sixth Ave. N. Y. City

ACCELERATORS—A19, A7, Thiocarbanilid.
The RUBBER SERVICE Laboratories Co.
611 Peoples Savings & Trust Bldg.
Akron Ohio

ANTIMONY Pentasulphide, golden and crimson, very fine, pure.
Rare Metal Products Co.
Belleville, N. J.
Direct Factory Representation

FOLLOW-UP
Your mail efforts by a listing in this section. It will repay you the slight cost.

The* BLUE LIST *of the Industry

Your Products Listed Here

reach buyers in rubber factories at a cost lower than is possible by any other method.

ARRANGE FOR YOUR LISTING TODAY!

ASBESTINE—Specially prepared for use in Rubber. Send for liberal working sample.
SOLE PRODUCERS
International Pulp Co.
41 Park Row, New York City

BEAD CABLES— National Flat Woven and Pratt Patent Bead Cables.
National Standard Co.
Niles, Mich.

CALENDERS—Embossing, for artificial leather, oil cloth etc.
Textile-Finishing Machinery Co.
83 Exchange Place, Providence, R. I.

CARBON BLACK—*Micronex* the world's standard gas black, universally known as the "King of Rubber Pigments."
Binney & Smith Co.
41 East 42nd St. New York City

CARBON BLACK
Godfrey L. Cabot, Inc.
Manufacturers for forty years.
940 Old South Bldg., Boston, Mass.
612 Metropolitan Bldg., Akron, O.

CARBON BLACK—*Aerfloted* Arrow Black for rubber compounding. Standard for grit-free uniformity.
J. M. Huber, Inc.
130 West 42nd St. New York

CARBON BLACK — *Black Goose Brand*—free from grit and impurities and imparts high tensile strength to the rubber compound.
Union Power Co., Inc.
310 United Bldg., Akron, Ohio. 607 Com'l. Nat'l. Bank Bldg., Shreveport, La. 25 West 43rd St., New York, N. Y.

CARBON BLACK or any other compounding material used by rubber manufacturers can be marketed at low cost by listing it in *The Market Place.*

CASES—Fibre construction, insure satisfactory shipping results. Send for sample.
Brooklyn Fibre Syndicate, Inc.
Decatur St. & Irving Ave.
Brooklyn, N. Y.

CATALPO— A colloidal and gritless clay now being used as a reinforcing pigment in number one treads, solids, and tubes.
Moore & Munger
33 Rector Street
New York City

CHEMISTS read your listing in the MARKET PLACE. There is no cheaper way to reach these prospects.
Try It!

THE MARKET PLACE Section Continued on Second Page Following.

MARKETS

Cottons and Fabrics

NEW YORK, March 15, 1926

Department of Agriculture figures issued recently estimated world production of cotton for the year ending July 31, 1926 as 27,600,000 bales; carry over of all kinds of cotton on the same date was given as 6,114,000, making a total supply of 33,714,000 bales. Estimated world consumption for the year ending July 31, 1926, was given as 23,350,000. Indicated carry-over was thus 10,364,000 bales.

In arriving at these figures the world consumption of American cotton for the year was estimated at 14,500,000 bales, which deducted from an approximate production of 15,800,000 bales plus the carry-over of July 31, 1925, of 3,306,000 bales, indicates a world carry-over of American cotton next July of 4,606,000 bales.

Six Months Consumption

The International Federation of Master Cottons Spinners' and Manufacturers' Associations estimated that in the six months ended Jan. 31, 6,987,700 bales of American cotton were consumed. As present conditions do not indicate any material increase in world consumption during the remainder of the season, it may be inferred from the Federation's figures that the total consumption of American cotton for the year ending next July will not exceed 14,000,000 bales, an amount which is 500,000 bales less than estimated by the Department of Agriculture. In the face of this possibility it would seem that only as a result of a considerable improvement in demand from ultimate consumers or of very unfavorable developments with regard to the new crop outlook is any sustained advance from the present price levels of old crop months to be expected.

But the size of the prospective carry-over must be discounted to a certain extent by the strong possibility that it may contain an abnormal quantity of untenderable cotton, says A. Norden & Co., New York. Southern hedge selling, although a factor in the recent decline, must now be regarded as virtually completed and, until the new crop begins to move in volume, the market can only decline under the weight of speculative short selling. Present levels, however, appear to be too low for the inauguration of an aggressive bear campaign, especially as a considerable time must elapse before ideas regarding next season's production can commence to crystallize.

New York Prices

	Open	High	Low	Close	Close March 1
May	18.60	18.74	18.56	18.73	18.40
July	18.18	18.27	18.12	18.26	17.77
October	17.50	17.58	17.46	17.55	17.22
December	17.35	17.23	17.10	17.22	17.—
January	17.14	17.20	17.12	17.20	....

Tire Fabrics

Tire manufacturers have already contracted for a good proportion of their requirements through the second quarter of the year. During the past two weeks there has been somewhat more opportunity to purchase fabrics at lower prices, where immediate or nearby deliveries were not important factors. Although the market for tire fabrics continues quiet better inquiry has been reported from several quarters. In the trade the easier price tendency lead to expectations of larger consumption. But there has not been sufficient inquiry to test what fabric mills might consider in view of lower cotton quotations.

CORD FABRICS

Combed Sakellarides		Nominal
Combed Peeler	lb.	Nominal
Carded Peeler		.46 @ .47
Combed Egyptian uppers	lb.	.62 @ —
Carded Egyptian uppers	lb.	.56 @ .58

SQUARE WOVEN

17¼-ounce Egyptian uppers, combed	lb.	Nominal
17¼-ounce Egyptian uppers, carded	lb.	.54 @ .57
17¼-ounce Sakellarides, combed	lb.	Nominal
17¼-ounce Peeler, carded	lb.	.45 @ —

Ducks—There has been but small demand for cotton duck during the last two weeks. The price of hose and belting duck was reduced in some quarters to 37 cents. Although nominally quoted 44 to 45 cents, army duck was down to 43½ cents for some makes. There is no immediate prospect for better business.

Burlaps—During the past week there was a moderate business done in futures. Sales were largely confined to March shipments, the total being in the neighborhood of 500 bales. The primary market broke from 5d to 6d on the 11th, leaving the local situation weaker. Offerings increased daily, with small interest shown by buyers. The burlap market has been following an erratic course for over a month.

SHEETINGS

40-inch	2.50-yard	yd.	.13¾ @	—
40-inch	2.85-yard	yd.	.12 @	.12¼
40-inch	3.15-yard	yd.	.13¼ @	.13½
40-inch	3.60-yard	yd.	.11¼ @	—
40-inch	3.75-yard	yd.	.09¾ @	—
40-inch	4.25-yard	yd.	.08⅞ @	—

DUCKS

Belting	lb.	.37 @	.38
Hose	lb.	.37 @	.38
Enameling	lb.	.39 @	.44
Shoe Ducks	lb.	.41 @	.46
Single filling	lb.	.17 @	.19
Double filling	lb.	.20 @	.21

BURLAPS
(Carload Lots)

7½-ounce	40-inch	6.75 @	—
8 -ounce	40-inch	6.85 @	—
10 -ounce	40-inch	9.25 @	—
10½-ounce	40-inch	9.40 @	—

J. H. LANE & CO.

Tire Fabrics Cord Fabrics

Enameling Duck Drill Sheeting

Osnaburg and Special Constructions

250 W. 57 Street, NEW YORK 323 South Franklin St., CHICAGO.

ALL THE LEADERS

Are represented in this section. Purchasing agents can rely on the concerns listed as thoroughly reliable in every way.

The Market Place 2.

RUBBER FACTORIES

use vast quantities of raw materials and equipment. Let the industry know how well you can serve it through a listing in this section.

CONSULT BANNER

Before You Buy
TIRE BUILDING MACHINES

The Banner Machine Co.
Columbiana, Ohio
Paul A. Frank, Akron, Ohio, Agent.

DO YOU KNOW how cheaply space in this section may be obtained?

Write for Rates

CHEMICALLY PURE BRIGHT RED OXIDES

Unsurpassed for fineness, strength and uniformity.

J. H. Nicholas & Co., Inc.
109 Liberty Street, New York City.

CRUDE RUBBER — All Grades. Washed - Dried - Milled.

Send us Your Inquiries.

Gibraltar Rubber Corp.
West New York, N. J.

FABRICS—Tire fabrics, Egyptian—Peeler, Karded and Combed, Cord and Square.

Cabarrus Cotton Mills
(Cannon Mills, Inc.)
55 Worth St. New York
827 S. La Salle St. Chicago

CHEMICAL MNFRS.

Over 30 chemical firms are using *The Market Place* regularly. The cost is moderate and results sure!

The Rubber Age
225 Fourth Ave., New York

DIPHENYLGUANIDINE

Aero Brand, product of the highest purity from dependable source of supply.

American Cyanamid Co.
511 Fifth Ave. New York City.

FABRICS—Spots and Contracts: Tire Fabrics, Enameling ducks, Tube Wrapping Tapes.

H. Frank Jones
395 Broadway New York City

CHEMICALS and compounding ingredients for the rubber trade.

Harshaw, Fuller & Goodwin Co.
Cleveland, Ohio

DRY KILN—for drying crude rubber and chemicals—Hunter Process.

Carrier Engineering Corporation
750 Frelinghuysen Ave. Newark, N. J.

FABRICS—Tire, cords, enameling ducks, drills, sheetings, osnaburgs.

J. H. Lane & Co.
250 West 57th St. New York City

CHEMICALS — Accelerators

Trimene Base, Heptene, Monex, Crylene, Lithex, Thiocarbanilide, Triphenylguanidine, Aniline Oil.
Clay—Mineral Flour, Seminole (Georgia).
Antioxidant—VGB, a proven product.
Labels—all-rubber two color brands.

Naugatuck Chemical Co.
1790 Broadway, New York.

ENGINEERS

Machinists, Iron and Steel Founders
Standard and Special
Rubber Working Machinery

The Adamson Machine Co.
Akron, Ohio

FABRICS—Tire fabrics—coarse builders, chafers, breakers in all grades.

New England Southern Mills
LAWRENCE & CO.
24 Thomas St. New York
Boston, Philadelphia, Chicago, St. Louis, San Francisco

CHEMICALS and compounding ingredients; Clay, Whiting, Accelerators, Mineral Rubber.

R. T. Vanderbilt Co.
50 East 42nd St. New York City

LISTING IN THIS SECTION

Places your products among the leaders in the field!

THE RUBBER AGE
225 Fourth Ave., New York

FABRICS of every description are used in rubber plants.

Are *yours* used?

If not — list them in

The Market Place.

CHEMICALS and pigments for the rubber trade. Complete stocks.

Wishnick-Tumpeer Chemical Co.
CHICAGO CLEVELAND BROOKLYN

FABRICS—Stockinets, Jersey Cloth and Special Fabrics for the Rubber Industry.

U. S. Knitting Co., Inc,
Pawtucket, R. I.

THE MARKET PLACE Section Continued on Second Page Following.

Reclaimed Rubber

NEW YORK, March 16, 1926

After a slight let-up in demand from rubber manufacturers for reclaimed rubber, reclaimers now report a return of the high volume of business experienced for some time past, thus indicating that tire factories are resuming full time operations. Following the lead of crude rubber a number of grades of reclaims are now obtainable at slightly lower quotations. Tire reclaims generally are quoted ¼c less than earlier in the month. Quotations follow:

Friction (Uncured)				
No. 1	lb.	.40	@	.45
No. 2	lb.	.35	@	.40
High Tensile Black				
Super-Reclaim No. 1	lb.	.28	@	.30
" " No. 2	lb.	.19	@	.20
Shoe				
Unwashed	lb.	.10½	@	.10¾
Washed	lb.	.12¾	@	.13
Tube				
No. 1 (Floating)	lb.	.28	@	.30
No. 2 (Compounded)	lb.	.19	@	.20
Tires				
Black, unwashed		.10¾	@	.11
Black, washed				.12½
Black, selected tires	lb.			
Dark Gray	lb.	.16½	@	
Light Gray	lb.	.17½	@	.17⅞
White	lb.	.22	@	.22½
Truck, Heavy Gravity	lb.	.10½	@	.11
" Light Gravity	lb.	.11¼	@	.11½
Miscelloneous				
Mechanical Blends	lb.	.08	@	.09
Red, High Grade	lb.	.21½	@	.22

Scrap Rubber

NEW YORK, March 17, 1926

During the last two weeks dullness continued in the scrap rubber market, with dealers waiting for reclaimers to come in for new supplies. The undertone is said to be easy, and plenty of stock is being received by scrap dealers due to improved weather conditions. Some interest has been manifested in tubes, but inquiries for other grades have not been numerous.

Auto tire peelings		.01¾ @	.01⅞
Standard White auto	ton	42.50 @	45.00
Mixed auto	ton	26.00 @	27.00
Bicycle tires	ton	15.00 @	17.00
Clean solid truck tires	ton	37.00 @	40.00
Boots and shoes		.02 @	.02⅛
Arctics, untrimmed		.01 @	.01⅛
Arctics, trimmed		.01¼ @	.01⅜
Inner tubes, No. 1		.08½ @	.08¾
Inner tubes, No. 2, compounded		.07⅛ @	.07½
Air Brake Hose	ton	24.00 @	25.00
Rubber hose	ton	15.00 @	17.00

FALL IN PLANTATION PRODUCTION EXPECTED

(*Special to* THE RUBBER AGE)

Rubber produced in recent months in anticipation of a big increase of shipments is certainly responsible for anticipations of a big increase of shipments, but it is thought that in a few months the position will become normal, when, perhaps, Ceylon will not manage to turn out more than 85 per cent of standard and Malay, perhaps, 95 per cent. This is something of a conjecture at present, as is also any estimate of world production for 1926. One authority mentions 660,000 tons (including Dutch native production) and in some quarters a surplus of 55,000 tons on the year is estimated—a little more than a month's world supply.

Crude Rubber

NEW YORK, March 15, 1926

On March 2 in one of the most exciting and erratic sessions experienced in the local market during the last six months, rubber advanced about 3 cents. A total of 211 lots (527½ tons) was sold on the Rubber Exchange of New York. Next day after the collapse of the brief boom, the Exchange was forced to abrogate its rule providing for the cessation of trading in any position after a fluctuation of 5 cents a pound in the price from the previous close. A new limit of 8 cents was set. There was a brief recovery toward the close of the day.

The market was quiet on the 4th and 5th and little business was done. Toward the close of the next day, with London firmness and more interest evidenced by buyers, prices stiffened. At the outset of the new week another quiet day was experienced. Neither active sellers nor buyers were out in force and the result was steadiness in tone at variance with the volume of business done during the day. Factory buyers continued off the market on the 9th and it seemed unlikely that the expectations of heavy spring business will be more than partially realized.

Prices advanced sharply the next afternoon, due to covering on the local market as a result of London and Singapore short interests. The result was a rapid rebound in London and a corresponding advance in Singapore. Buyers were not much in evidence the next day and factory selling again became a feature, following the previous advance. Actual contracts were not numerous, and at the close the market was fairly wide, with few actual sellers in evidence.

The release of figures on imports and consumption during February by the Rubber Association gave the market a distinct shock on the 12th. Imports had been fairly well estimated, but estimates of consumption varied from the statistics of the Association quite sharply. Consumption for the month was shown to be 31,135 tons, as compared with estimates of from 25,000 to 27,000 tons. The result was that prices both in New York and London showed an immediate inclination to advance. May reached 63.60 and July 62.50 but at the close London reported that shorts were apparently covered, after which the market eased off considerably. All positions up to June for New York delivery were offered freely at 61 cents, with July, Aug., Sept., at 60 cents.

Trading operations on the Rubber Exchange established a new record of 1,045 tons that day. There were 217 contracts traded in during the first hour.

Rubber closed the week rather quiet and slightly easier. Buyers ideas were at about 61 cents for spot and 60½ cents for March. April, June was offered at 60½ cents but there were no buyers in evidence who were willing to pay even 60 cents for that position. London weakness broke prices sharply on the Rubber Exchange at the opening, all positions being down 2½ cents from the previous close. There was fairly active interest in the May and July positions, with sales amounting to 84 lots. This brought the week's business up to 1,131 lots, breaking previous records for business on the Exchange.

NEW YORK MARKET

Plantations—			
Ribbed Smoked Sheets			
Spot	.61	@	.62
March	.61	@	.62
April/June	.60	@	.61
July/Sept.	.58	@	.59
Oct./Dec.	.57	@	.58
First Latex, crepe spot	.62	@	.63
Amber Crepe, No. 2, spot	.58	@	.60
" " No. 3	.57	@	.59
" " No. 4	.56	@	.57½
Brown Crepe, Rolled	.54	@	.55
" " Clean, thin	.56	@	.58
" " Specky	.54	@	.56
Pontianac—			
Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		
Paras—			
Up-river Fine	.54	@	—
" Medium	.42	@	.44
" Coarse	.38	@	.41
Acre Bolivian, fine	.51	@	.53
Tapajos, fine	.44	@	.47
Islands, Fine	.44	@	.46
Cut Beni Bolivian, fine	.51	@	.53
Caucho Ball—			
Upper, shipment	.39	@	.42
Centrals—			
Corinto, scrap	.34	@	.38
Esmeraldo, sausage	.36	@	—
Guayule, w and d	.40	@	—
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" " red	Nominal		
Kassai, Prime Red	Nominal		
Balata—			
Block, Columbia	.65	@	—
" Cuidad	.63	@	—
Surinam, sheet	.72	@	—
Gutta Percha—			
Siak	.33	@	—
Red Macassar	$3.00	@	—
Chicle—			
Mexican, Yucatan	.58	@	—

LONDON MARKET

Standard Ribbed Smoked Sheets—	
Spot	29½d
March	29½
April/June	29¼
July/Sept.	28¼
Oct./Dec.	27⅜

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—	
Spot	28⅞d
March	29
April/June	28½
July/Sept.	28¼

GENERAL ADVERTISES ITS RECLAIMED POLICY

Following newspaper statements in which William O'Neil, president of the General Tire & Rubber Co., Akron, deplored the use of reclaimed rubber in tires, newspaper advertisements signed by Mr. O'Neil have appeared on the same subject. The General company is advertising that the best way to conserve crude rubber is to use it generously in tires in order that the tires will give greater mileage. Mr. O'Neil's views are not shared by other tire manufacturers, although few of them have taken a definite stand in the public press on the matter.

The Market Place

3.

FACTICE—Prevents blooming, makes colors fast and a smoother batch.

Stamford Rubber Supply Co.
Stamford, Conn.

MICA — Water Ground and Water Floated — 160 Mesh —Absolutely Free from Grit. Akron Stocks, also Factory Shipments.

The C. P. Hall Co.
116 Central Savings & Trust Bldg., Akron

RECLAIMED RUBBER—
Uniformity, reliability, cleanliness.

Pequanoc Rubber Co.
Butler, N. J.

GUAYULE—"Duro" Brand washed and dried ready for compounding.

Continental Rubber Co.
120 Broadway New York

MOLDS
FOR TIRES, MECHANICAL GOODS & DRUGGIST SUNDRIES.
The Akron Rubber Mold & Machine Co.
AKRON, OHIO.

RECLAIMED RUBBER—
for all purposes.

Rubber Regenerating Co.
Naugatuck, Conn.

LINERS — PROCESSED
For
Various Rubber Stocks
The Cleveland Liner & Mfg. Co.
5508 Maurice Ave., Cleveland, O.

MOLDS AND CORES—
Tire building equipment; general machine work.

The Akron Equipment Co.
Akron, Ohio

RECLAIMED RUBBER
A standardized grade for every requirement.
U. S. Rubber Reclaiming Co., Inc.
100 E. 42nd St., New York, N. Y.
"43 Years Serving the Industry Solely as Reclaimers"

MACHINERY—
Heater Presses, Molds and Cores, Tubing Machines.
The Williams Foundry & Mach. Co.
"In Business Since 1888"
Akron, Ohio

MOLDS & CORES—Tire building machines; tire finishing stands; tubing machines; hydraulic presses.

The Akron Standard Mold Co.
Akron, Ohio

RED OXIDE—A special grinding, guaranteed uniform in color and quality.

Joseph A. McNulty
114 Liberty St. New York City

MANDRELS--CIRCULAR
and Economy Calender Shells
Prompt Service—Let us quote you.
The Clyde E. Lowe Co.
2976 E. 81st St., Cleveland, Ohio

MOLDS & CORES—for automobile tires; general machine work.

Kuhlke Machine Co.
Akron, Ohio

RUBBER—Crude and scrap, all grades.

H. Muehlstein & Co.
Liggett Bldg. New York
Akron, Chicago, Boston, Hoboken

All the leaders in the rubber field
are now using the MARKET PLACE—
***That proves the value* of listings in this section.**
Arrange for yours now!

"NU-GUM" RUBBER
Produced from No. 1 Floating Tubes. Absolutely pure — no oils —no compound added. *Specific Gravity*, .98.
E. L. Bullock & Sons, Inc.
99 John St. New York City

RECLAIMED RUBBER
We specialize in fine Grey, Black and Red Reclaimed Rubber.
Send us Your Inquiries
The Defiance Rubber Co.
Defiance, Ohio

YOUR NAME
in this space would be seen by Buyers, Chemists, Engineers and Executives in all rubber plants.
Write for full information

THE MARKET PLACE Section Continued on Second Page Following.

CHEMICALS & COMPOUNDING INGREDIENTS

Accelerators — Colors — M.R. — Compounding Ingredients
Softeners — Vulcanizing Ingredients — Rubber Substitutes

NEW YORK, March 18, 1926—After a short period of lessened demand, during which business for various rubber chemicals and compounding materials was somewhat slow, shipments are again being made in sizable quantities with inquiries on the increase. Production of tires has increased somewhat but factors are not yet on a capacity basis. Mechanicals and footwear production is on a high level and is expected to continue so for some time to come. Chemical dealers and manufacturers as a rule are expecting much better business and within a few weeks shipments should again be made in large quantities. Prices show no material changes with quotations as follows:

ACCELERATORS

Organic			
Aldehyde ammonia, crystals	lb.	.82 @	—
Aniline oil, drums	lb.	.17 @	.17½
Crylene	lb.	.70 @	—
paste	lb.	.50 @	—
Di-Ortho-Tolylguanidine	lb.	1.05 @	1.08
Diphenylguanidine	lb.	.85 @	.88
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde-Aniline	lb.	.40 @	.42½
Grasselerator 102	lb.	.80 @	.82
Grasselerator 552	lb.	4.80 @	5.00
Grasselerator 808	lb.	1.50 @	1.75
Heptene	lb.	.55 @	—
Hexamethylene-tetramine	lb.	.80 @	.82½
Monex	lb.	4.00 @	5.00
Paraphenylenediamine	lb.	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
R & H 50	lb.	.60 @	—
Super-Sulphur No. 1	lb.	.50 @	—
Super-Sulphur No. 2	lb.	.18 @	—
Tensilac, No. 41	lb.	.65 @	—
Thiocarbandlide, kegs	lb.	.28½ @	—
Trimene	lb.	.75 @	—
base	lb.	1.20 @	1.35
Triphenylguanidine	lb.	.70 @	.73
Tuads	lb.	4.50 @	5.00
Vulcone	lb.	.75 @	.79
Zimate	lb.	3.00 @	—
Inorganic			
Lead, sublimed blue	lb	.10 @	.10½
Lead, white	lb.	.10¾ @	—
Litharge, domestic	lb.	.11¾ @	.12½
Lime, superfine	lb.	.01½ @	.02
Magnesia, calcined,			
light	lb.	.10 @	—
extra light	lb.	.40 @	.45
heavy	lb.	.04½ @	—

COLORS

Blacks			
Arrow "Aerfloted"	lb.	.09 @	.13
Bone Black	lb.	.05½ @	.11
Carbon "	lb.	.09 @	.13
Drop "	lb.	.07½ @	.14
Ivory "	lb.	.12 @	.45
Lamp "	lb.	.12 @	.40
Micronex	lb.	.10 @	.14
Thermatomic carbon	lb.	.05 @	—
Blues			
Prussian	lb.	.33 @	.34
Ultramarine	lb.	.08 @	.35
Browns			
Sienna, Italian	lb.	.04 @	.14
Umber, Turkey	lb.	.04 @	.06
Greens			
Chrome, light	lb.	.28 @	.31
medium	lb.	.30 @	.32
dark	lb.	.31 @	.33
commercial	lb.	.09 @	.10
Chromium Oxide, bbl.	lb.	.30 @	.31
Reds			
Antimony			
crimson, 15/17	lb.	.27 @	—
sulphur free	lb.	.48 @	.50
vermillion 15/17	lb.	.37½ @	—
golden, 15/17 F.S.	lb.	.16 @	—
pentasulphide,			
pure,	lb.	.33 @	.35
15/17 F.S.	lb.	.26 @	.30
Indian English	lb.	.11 @	.15
Oximony	lb.	.13¼ @	—
Para toner	lb.	.85 @	.95
Red oxide, reduced	lb.	.04 @	.12
pure	lb.	.12 @	.14
Blue Ridge	lb.	.12 @	.14
Toluidine toner	lb.	1.80 @	2.10
Venetian red	lb.	.01½ @	.05
Vermillion, quicksilver, English	lb.	1.40 @	1.45
Whites			
Albalith	lb.	.05⅞ @	.06⅛
Aluminum bronze		.55 @	1.20
Lithopone, Akcolith	lb.	.05⅝ @	.06
Lithopone, Azolith	lb.	.05⅝ @	.06⅛
Zinc Oxide—American Process			
XX red	lb.	.07½ @	.07¾
Kadox,			
black label, kegs	lb.	.10⅝ @	.11¼
blue " "		.09⅝ @	.10⅛
red " "		.08⅝ @	.09⅛
American Azo:			
ZZZ (lead free)	lb.	.07¼ @	.07¾
ZZ (under 5% leaded)	lb.	.07 @	.07½
Zinc Oxide—French Process			
White seal	lb.	.12⅝ @	—
Green seal	lb.	.11½ @	—
Red seal	lb.	.10½ @	—
Yellows			
Chrome, light		.17½ @	.18
dark and medium	lb.	.17½ @	.18
Cadmium Sulphide	lb.	1.20 @	1.50
Ocher, French medium	lb.	.03¼ @	.03⅜
domestic	lb.	.01¾ @	.02½

COMPOUNDING MATERIALS

Aluminum Flake			
(f.o.b. plant)	ton	21.85 @	24.50
hydrate light	lb.	.16 @	.17
Ammonia carbonate	lb.	.10 @	.10½
Are-O Sol	ton	8.00 @	11.00
Asbestine	ton	14.50 @	18.50
Barium carbonate	lb.	.03½ @	—
Barium Dust	lb.	.05 @	.06
Barytes southern off-color,	ton	12.00 @	18.00
Western prime white	ton	23.00 @	—
imported	ton	27.00 @	34.00
Basofor	lb.	.04½ @	—
Blanc fixe dry f.o.b. works	lb.	.03¾ @	.04
Carrara filler	lb.	.01¾ @	.02
Catalpo (fact.)	ton	38.00 @	40.00
Chalk, precip., extra light	lb.	.04¼ @	.05
heavy	lb.	.03¼ @	.04
Clay, China, domestic	ton	15.00 @	25.00
Aerfloted Suprex	ton	20.00 @	30.00
Dixie	ton	20.00 @	35.00
Blue Ridge, Dark	ton	9.00 @	—
" " Light	ton	12.00 @	—
Langford	ton	12.00 @	22.00
Seminole	lb.	— @	—
Glues, extra white	lb.	.20 @	.29
medium white	lb.	.18 @	.24
common bone	lb.	.12 @	.14
Graphite flake, bbls.	lb.	.06½ @	.12
Liquid latex	gal.	3.00 @	—
Magnesia, carbonate	lb.	.08 @	.09
Mica, powdered	ton	65.00 @	80.00
Rotten Stone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.81 @	—
Talc, domestic	ton	16.00 @	18.00
Terra Alba	cwt.	1.25 @	2.00
Tripoli, white	lb.	.02 @	.02¼
Whiting, commercial	cwt.	1.00 @	1.15
Alba	ton	12.00 @	—
gilder's bolted	cwt.	1.25 @	1.35
English cliffstone	cwt.	1.50 @	—
Paris white American	cwt.	1.25 @	1.50
Quaker	ton	13.00 @	15.00
Superfine	ton	10.00 @	12.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	33.00 @	—
Hydrocarbon, Hard	ton	29.00 @	—
Hydrocarbon, Soft	ton	29.00 @	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	70.00 @	72.50
Robertson, MR, solid	ton	35.00 @	75.00
M.R. (gran)	ton	42.00 @	80.00

SOFTENERS

Acids			
Acetic, 28%	cwt.	3.25 @	3.50
Cresylic, 97%	gal.	.65 @	.72
95%		.62 @	.69
Muriatic, 20%	cwt.	.80 @	.90
Nitric, 36 degrees	cwt.	4.75 @	5.00
Sulphuric, 60 degrees	ton	10.00 @	11.00
66 degrees	ton	14.00 @	15.00
Tartaric, crystals	lb.	.29 @	—
Alkalies			
Caustic soda, 76%	cwt.	3.60 @	—
Soda ash, 58% C.L.	cwt.	1.43 @	1.45½
Oils			
Castor, No. 3 bbls.	lb.	.12¾ @	—
Corn, crude, bbls.	lb.	.11¼ @	—
refined	lb.	.13 @	—
Cottonseed, crude		.11¼ @	—
Glycerine, C.P. drums	lb.	.24 @	.24½
Linseed, Raw C.L. bbl.	gal.	1.00 @	—
Liquid Rubber	lb.	.12 @	—
Moldrite	lb.	.05 @	.06
Palm, Lagos		.08¾ @	.09
Niger	lb.	.08½ @	—
Peanut, domestic crude	lb.	.12¼ @	—
Petrolatum, white	lb.	.11⅛ @	.11⅜
amber		.03⅞ @	.04
dark amber	lb.	.03⅝ @	.03¾
Pine, steam distilled	lb.	.60 @	.65
Rapeseed, refined	gal.	.84 @	.92
blown	gal.	1.05 @	—
Rosin, first rectified	gal.	.60 @	.62
second rectified	gal.	.65 @	.67
Soya Bean, crude		.13¼ @	.13½
Synthecite	lb.	.06 @	—
Tar, commercial	gal.	.30 @	.32
Resins and Pitches			
Tar Retort	bbl.	16.00 @	17.00
kiln burned	bbl.	15.00 @	16.00
Pitch, Burgundy	lb.	.06 @	.06½
coal tar	gal.	.05½ @	.06
pine	bbl.	8.00 @	9.50
Rosin, grade K	bbl.	15.50 @	—
Solvents			
Alcohol denatured,			
No 1 bbls.	gal.	.39 @	.47
Benzol, 90%	gal.	.28 @	.30
pure		.32 @	—
Carbon bisulphide	lb.	.05½ @	.06¼
tetrachloride	lb.	.06¼ @	.06½
Dimethylaniline	lb.	.30 @	.32
Motor gasoline,			
steel bbls.	gal.	.18 @	—
Naptha, V. M. & P.	gal.	.14¾ @	—
Toulene	gal.	.31 @	—
Turpentine, spirits	gal.	1.01 @	1.01½
wood	gal.	.90 @	.92
Waxes			
Beeswax	lb.	.62 @	.63
Carnauba, No. 1	lb.	.48 @	.49
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
Paraffine White A.M.P.	lb.	.05¼ @	.05¾
Yellow A.M.P.	lb.	.05⅛ @	.05¼

ANTI-OXIDANTS

VGB	lb.	.70 @	—

SUBSTITUTES

Black	lb.	.08½ @	.14
White	lb.	.10 @	.17
Brown	lb.	.10 @	.15
Brown factice	lb.	.10 @	.16
White factice	lb.	.10½ @	.17½

VULCANIZING INGREDIENTS

Black hyposulphite	lb.	.18 @	.20
Ethyl Chloride, Cyl.	lb.	.55 @	—
" Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.04 @	—
Sulphur flour			
Superfine, bags	cwt.	2.20 @	2.50
" bbls.	cwt.	2.60 @	2.90
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bags	cwt.	2.35 @	2.90
bbls.	cwt.	2.90 @	3.15

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